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FOURTH NAVAL ESSAY.

(Recommended to be printed by the Referees.)

Subject:—

“IN THE EXISTING STATE OF DEVELOPMENT OF WAR-SHIPS, AND OF TORPEDO AND SUBMARINE VESSELS, IN WHAT MANNER CAN THE STRATEGICAL OBJECTS, FORMERLY PURSUED BY MEANS OF BLOCKADING AN ENEMY IN HIS OWN PORTS, BE BEST ATTAINED?”

By Lieutenant A. B. F. DAWSON, R.N.

“To be, or not to be.”

CHAPTER I.

INTRODUCTORY.

THE subject of this essay not only covers a vast amount of ground, and is of the highest importance, but there appears to be so much doubt on this particular subject still existing in the minds of those responsible for our naval strategy, that I am convinced that there is no more suitable subject for discussion at this present time.

The way I propose to deal with it is as follows:—

1. To briefly touch on what history can tell us of previous blockades, and to see what points in connection with them are still of value to us.
2. To discuss in detail the various weapons and methods of warfare which might be used on both sides in a modern blockade.

3. To show from this discussion that anything approaching to a close blockade of an enemy's port by a battle squadron is impracticable, and
4. To propose a scheme of watching an enemy's port which would supersede and take the place of a close blockade.

In accordance with this plan, I pass to the first part of my subject, which is:—

BLOCKADES: THEIR OBJECT AND HISTORY.

Before starting to discuss in detail a subject of this importance and magnitude, it appears to me that it would be advisable first of all to state the strategical objects for which history tells us blockades under former conditions have been maintained, and sometimes persevered in for long periods extending over several years. These blockades may be divided into two classes whose objects are totally distinct from each other:—

- a.* A blockade of an enemy's fleet in his own ports.
- b.* A blockade of an enemy's coast, he having practically no sea-going fleet.

Under the heading *a* we have many examples, the principal strategical objects of which were as follows:—

1. To prevent the junction of two or more portions of the enemy's fleet, so as to enable each to be attacked separately by a fleet inferior to the two conjoined.
2. To enable warlike operations, such as the landing of troops, to be carried on elsewhere, unhindered by the presence of an enemy's fleet.

An example of a blockade of an enemy's coast is, of course, to be found in the American Civil War, and a blockade which would come under this heading would be carried out:—

1. To prevent arms, munitions of war, and, in some cases, food and other necessities of life, from being imported into the country.
2. To prevent the escape of commerce destroyers which the enemy, although not possessing a battle squadron, might be able to equip and send out to prey on commerce.

I shall now touch on former blockades in order to see if any lessons which might be of value to us now may yet be learnt from them.

It may be asked: "What is the use of raking up ancient history when methods, and weapons of warfare generally, have altered so enormously that it is doubtful whether a blockade, in any sense of the word, is now feasible?"

The answer to this is given to us by Captain Mahan, who rightly tells us that the study of history is still of the greatest importance, because the strategical objects remain the same, although the tactical methods for obtaining them may alter. The strategical objects which were sought for, and obtained, by the tactical methods of blockades, are the same now as then. My endeavour, in this paper, will be to discuss modern tactical methods, and to show whether or no

blockade can still be carried out; and, if not, what system of warfare is destined to take their place; but this cannot be adequately presented to the reader except by first briefly discussing the methods of the past, when blockades were *de rigueur*, and then comparing them with what would obtain under modern conditions.

As a rule, it may be assumed that the object of blockading an enemy's port is not to prevent him from leaving that port, but merely to ensure being able to bring him to action should he attempt to do so. In order to show this, an example can be given of *a*, 1. The preventing of the junction of two portions of the enemy's fleet. This is to be found in the blockade of Toulon by Boscawen, in 1759, by means of which he prevented the French fleet from proceeding to the relief of Brest. Boscawen would have preferred the French fleet to come out; for, whatever the result of their action with him, he could safely assume them to be too much disabled by it to proceed to join the Brest squadron. The blockade of Brest at the same time gives us an example of *a*, 2: enabling warlike operations to be carried on elsewhere, unhindered by the presence of an enemy's fleet; for, owing to this blockade, which prevented any hindrance from the sea, Rodney was enabled to bombard Havre, and accomplish the destruction of the invasion flotilla which was being prepared there.

An example of an inefficient blockade may be given in the escape of Hoche from Brest, in 1796, when he made an abortive attempt to land at Bantry Bay. But there is evidence, even here, of the extreme difficulty of getting to sea unobserved in those days of sailing-ships. Two factors in combination were then necessary for this:—

1. The absence of the enemy.
2. A fair wind.

This is proved by the blockade of the Texel, in 1797, when Duncan blockaded the Dutch fleet there, and prevented any attempt at an invasion of England. Now, however, it would be much easier to escape, for the second factor is absent, and the first is less likely to be rendered necessary as, in these days of fast steam-ships, peace manœuvres have shown it to be comparatively easy to escape on a dark night, even though closely blockaded.

A blockade, in the days of sailing-ships, was always dependent on the state of the weather. An off shore gale, while blowing the blockaders off the coast, at the same time gave a fair wind to the ships blockaded. True, we have still to provision and water, and, more important still, to coal; but, with modern inventions, the latter has already been done at sea, while steaming, and the two former could if necessary, be carried out in a similar way. These would not, therefore, of themselves, prove insuperable obstacles to a modern blockade, although they would undoubtedly add greatly to its difficulties. We must also remember that in olden days a ship sent away to provision and water was lost to the blockaders for, in all probability, some weeks; now, if she had to be absent at all, it need only be for a few days. Also an admiral will know, almost to an hour, when to expect her back, and can make his arrangements accordingly.

It was usual, in the days of sailing-ships, to form a fairly close blockade; and I think a distinction should be made, a thing which is not always done, between blockading, and watching an enemy's port. The former term should be used only when the enemy's battle squadron is lying off the port, the latter consists in leaving fast cruisers to watch

the port, and to bring intelligence of the enemy's movements to the battle-squadron, which may be lying at anchor hundreds of miles away. These watching tactics have occasionally been carried out by sailing-ships. With an on shore wind the fleet blockading Brest used to go to Torbay, and anchor there, leaving the enemy's port to be watched by frigates. This method of blockading was possible with sailing-ships, and the ultimate objective of the blockaded fleet did not matter, for it could not leave port without a fair wind, and then the blockading fleet would be lying in the offing again. Such a method of blockading would manifestly be impossible now, except under certain conditions. These conditions are:—1. That the objective of the blockaded fleet must be known; and 2. That the port which the blockading fleet uses must lie somewhere on or near the line between this objective, and the port blockaded. Then there would be a good chance of watching cruisers bringing news of an escape in time to enable their battle-fleet to cut off the enemy before he had reached his objective. For instance, one can still imagine Toulon being watched by a fleet anchored at Port Mahon, if Brest were the objective of the Toulon fleet, for it would be easy for the fast ships watching Toulon to give timely notice to their battle-fleet at Port Mahon when the enemy put to sea.

At the first glance, it seems that taking into consideration the terrible risks from torpedo and submarine boats, that a close blockade would now entail, and also the great difficulty of making adequate provision for coaling during the blockade, these watching tactics would be the only ones to adopt in order to ensure either:—1. The encountering of the enemy's fleet and the destruction of it, before it could succeed in joining another squadron; or 2. The forcing it to again retire within the safe precincts of its fortified port.

It does not do, however, to jump at conclusions, and there are now so many considerations which enter into the question of the practicability or otherwise of blockades, that I think it will do no harm to mention at least the principal ones.

I have already mentioned the all-important matter of coal. It is evident that a blockading fleet must always have its bunkers full, or nearly full, for it must always be ready to chase escaping enemy's ships and to force them, if necessary, to their highest speed. This may be absolutely necessary in order not only to catch them, but to make them burn their coal at such a rate that they would be unable to reach their objective. Nowadays, it will not be very hard to guess what this objective is; the distribution of the remaining enemy's squadrons, and the facilities for coaling, will determine it. The question of coal will also, in most cases, prevent anything but the most direct route from being taken. It must be remembered that a ship which can steam 3,000 miles, at her economical speed of 10 knots, without coaling, could only do 1,000 miles at the very most at full speed; while the chance of her breaking down is enormously increased. In the matter of breakdowns, the chasing fleet would have the advantage. The number even of their lame ducks would not be known to the chased, while the latter's broken-down ships would be certain of capture unless he decided to stand by them and so to bring on a general action.

I have hitherto only touched on those blockades where both sides possess effective sea-going fleets. The other form of blockade, which is exemplified by the American Civil War, is really almost the only

blockade which has been carried out under anything which might approach modern conditions of warfare, and throughout which both blockaders and blockaded showed plenty of energy and resource. Blockades such as the Spanish-American in Cuba, and Chino-Japanese at Wei-hai-wei, teach us next to nothing, owing, in both cases, to the supineness and general inactivity of those blockaded, which resulted in their making no attempts at all to use their torpedo-boats.

The blockade of the Civil War cannot, however, teach us much, as it was maintained for a purpose and objects which it is impossible to conceive could ever apply to this country, under any combination of circumstances. I do not, therefore, propose to discuss this particular form of blockade at all, but merely to see if we can learn from it anything which might still be of use.

In the American Civil War we find that the vessels of the inshore squadron blockading Wilmington sometimes carried lights at their peaks all night. They also were in the habit of remaining at anchor during the night, at any rate during the early part of the blockade. Even if under way they were generally lying stopped off the mouth of the harbour. The practice of showing lights was discontinued, because it was found to assist the blockade runners; that of lying at anchor because of the loss of ships from attacks with the primitive spar torpedo then in use. The difficulty, even then, of preventing blockading ships from escaping, is well shown by the fact that blockade running could not be completely stopped, even after a close blockade had been established. Such a close blockade as was possible in 1863 is certainly impracticable now; while as for showing lights, anchoring at night, or lying stopped in the offing in the day time, these are all things which nowadays, could not be thought of for an instant if the enemy were worthy of the name. Evidently, too, the strain on the blockaders, which was great enough then, will be far greater now. We must consider the human element, and that strain will probably tell in time, and will at any rate tend towards making the blockade inefficient.

The questions which I have to deal with in this essay concern principally countries which have large fleets to oppose to one another, and these questions have not only not hitherto been solved, but their solution is most essential and vital to us. I have often heard the possibility of blockades discussed from every point of view. It is undoubtedly, an exceedingly hard problem to solve, and it cannot be considered to be rendered any easier of solution by the fact that the elements which go to solve it, that is the weapons of warfare, change continuously with the progress of inventive genius. We now have to contend with the destroyer and the submarine boat. But dare anyone say how long it will be before the flying machine has also to be taken into consideration? Much that I have to say, and many conclusions that I shall draw, I cannot *prove* to be true. It is necessary, as the weapons which will be principally relied on to turn the scale in warfare of this description are yet practically untried in war, to rely to a great extent, on the teachings of peace manœuvres, and also on one's own knowledge as to the limitations of these weapons. For instance, we can only estimate the value of the Whitehead torpedo, whose accuracy and range have, of recent years, been so greatly increased, that I think I may say with truth it has been transformed, from an unreliable and inaccurate weapon, into an arm of deadly precision.

Still, it has never recently been used in warfare, and its true value cannot be accurately gauged except by this test. Manœuvres tell us but little of the value of the torpedo-boat, for they assume that three minutes or so under fire would put one out of action, a thing which most naval officers, who know the inaccuracy of night firing, doubt.

We can but call our knowledge and common sense to bear upon these points, and, after marshalling in array the various weapons which might be used in blockades, and fixing on their respective warlike values, I think we should be able to come to some logical conclusion on the great strategical question which is the subject of this essay.

It seems to me to be, before everything, a question of the utmost importance to the British Empire. Hitherto, all our naval wars have been accompanied by blockades, which we have been enabled to conduct with almost unvarying success. Now should we unfortunately be plunged into war, who can say what we should do? Should we ever dare to attempt a blockade; and, even did we do so, should we not run a terrible risk of the loss of our most valuable national assets, our battle-ships? Our plans in time of war are known but to very few. Do those few thoroughly grasp all the pros and cons of this momentous question, and have they informed our admirals what are their views on the subject, and what they intend to do in war time? It seems possible that they have not yet settled on any decided policy; tactics of this sort may be left to individual admirals. It is to be hoped those admirals have studied this intricate matter, and arrived at a right conclusion; but it seems possible, in view of last year's Mediterranean manœuvres that this is not the case. The literature, which might help them is very meagre; and, if it is true that in a multitude of counsellors there is wisdom, then these essays cannot fail to bring up some points they have overlooked, or at least, confirm them in others about which before they were in doubt.

What I propose to do in the next chapter is to discuss the various weapons of warfare now available, from both an offensive and defensive point of view, and try to deduce their respective values for blockading work. Then, bearing these values in mind, it will be possible to form some idea as to whether blockades are now feasible at all, and if so, what amount of *matériel* and *personnel* would be required to render one efficient, and how these ships, etc., could best be bestowed for blockading purposes.

If, after considering all these points, we are forced to conclude that blockades are no longer possible, it will be necessary to consider whether the strategical objects already enumerated can be now attained, with any degree of certainty, by other means, and to enter fully into the details of those means.

CHAPTER II.

WEAPONS OF OFFENCE AND DEFENCE, WHICH COULD BE USED IN BLOCKADES.

These can be divided into three classes:—

1. Weapons available for either offence or defence, and which could be used by both sides.
2. Weapons used solely by blockaders.
3. Weapons used solely by the blockaded fleet.

Under the heading (1) would come:—

- a. Destroyers.
- b. Torpedo-boats.
- c. Submarine-boats.

Under (2) might be placed blockade mines, and under (3) boom defences, in conjunction with Q.F. shore batteries and search-lights.

I also propose to discuss wireless telegraphy in its bearing on blockades; but, as, although of great importance, it can hardly be called a weapon, it will not be classified with them, and will be left till the end of the chapter. I have left the land defences, and mine field of the fortified port, in which I assume the enemy is blockaded, out of the question, as I take it for granted that the permanent defences are strong enough to make anything but a raiding attack impossible.

DESTROYERS.

These vessels are generally armed with a few light Q.F. guns, and carry two torpedo tubes. They are sufficiently fast, in smooth water, to run way from any larger craft, but they cannot steam against a heavy sea without being easily caught by even a small cruiser.

They could be used by blockaders for forming an inner cordon for watching the blockaded port, and also for destroying the enemy's torpedo-boats, should they venture out, or for making a raiding attack on the blockaded fleet. By the latter they would probably be used solely for the purpose of harassing the blockading fleet at night.

Their advantages for blockading purposes are, that being small, fast, and of light draught, they would be useful, not only for giving notice of any attempted escape either by day or night, but also for attacking and torpedoing the enemy's ships if they attempted to escape at night. They would probably be available on both sides in large numbers, and indeed would have to be so to be of much use in prolonged operations. As regards blockading destroyers, the constant strain on their officers and men, which would never cease night or day, would render a system of reliefs absolutely necessary. This might be arranged either by relieving the crews from the battle-ships, or by keeping a certain proportion of destroyers in reserve. The latter course, if there were sufficient boats available, would probably be the best to adopt, as we know, from sad experience, how liable these craft are to break down, and how impossible it is for any admiral ever to be able to count on having all his destroyers ready for service. In prolonged operations a parent ship for destroyers, capable of making good machinery defects, would be almost a necessity for the blockaders, unless there was a home port within easy reach. Being of such light draught, destroyers are less liable to be torpedoed than most craft; although, recently, in the Mediterranean manœuvres, the blockaded fleet sent out picket boats armed with dropping gear, and succeeded in torpedoing a blockading destroyer. This would appear to be a most effective method of keeping the blockading destroyers at a respectful distance at night, the picket boats being both hard to see and hard to hit from a destroyer.

Their advantages to the blockaded fleet are obvious:—They enable the enemy to be kept constantly on the alert, or else force him at night to such a distance from the port that the chances of escape are enor-

mously increased. They provide him with the means of so reducing a superior blockading fleet, as to enable him to come out and give battle with a fair chance of success. They can attack the enemy's destroyers by day or night, and every night they can worry his watching cruisers. Their crews can rest during the day-time in a safe harbour, and any defects can at once be made good. It will thus be seen that they have many advantages over the enemy's boats which, fair weather or foul, have to lie outside the port and exercise unflagging vigilance.

I do not think that any naval officer nowadays will seriously dispute the statement, that, exclusive of submarine boats, whose value has yet to be proved, the destroyer is, without doubt, a most dangerous and deadly weapon in the hands of an energetic and capable officer. Even if only allowed by a blockaded admiral to be out of harbour between dusk and daylight, their possible radius of action would have to be taken as at least 100 miles; that is to say, no blockading admiral could deem his fleet safe from their attack unless he removed it each night outside this radius.

As regards their chances of success in an actual attack on blockading ships at sea; what does experience teach us? We have had many manœuvres in which they have been employed; but, except in the Mediterranean, in 1902, I think they have never been used in this particular way. On this occasion, they were most successful in their attacks, and contributed largely to the ultimate success of the blockaded fleet.

Generally, the rules of these peace manœuvres put a destroyer out of action after she has been three minutes or so under fire, unless she has, before that time, succeeded in torpedoing some ship. Now I think that anyone who really believes in the likelihood of a destroyer being disabled in three minutes from time of sighting is a very optimistic person; or, possibly, has but a slight knowledge of the arguments for and against the destroyer. It is a matter of common knowledge in the Service, that, at night firing, the targets are seldom, if ever, hit. I do not ever remember seeing one hit by a 12-pounder. Now under what circumstances is this firing carried out? In the first place, a fine night is generally chosen, and a fairly large target is used, painted so as to show up well. This target is put overboard, and, the men having previously mustered at their guns, every search-light in the ship is turned on to it, while the ship herself slowly steams round it at a short range, and the gunners endeavour, but seldom succeed, in their efforts to hit it. Can anything be less like what would happen during an attack by a destroyer? I think that the only similarity would consist in the missing of the target. The destroyer would come suddenly on the scene; the cruiser she was attacking would, we will suppose, be at "Man and arm ship," with the men lying down at their loaded guns. The destroyer is sighted by a signalman, the "Alert," is sounded, and a bugle is blown to indicate the direction of the enemy's approach. The search-lights can then be switched on, and trained on to the enemy, if this is considered to be of any use. Let us suppose that the destroyer is approaching at 20 knots before the alarm is given. She is not likely to be sighted much more than a mile off, unless it is a bright moonlight night, in which case an attack would probably not be attempted.

Search-lights are of but little use at 2,000 yards, and if the destroyer increases to full speed on arriving at this distance it would take her but one minute to travel from there to within 1,000 yards

of the ship. As our present search-lights are not much use to guns outside 1,000 yards, and as it would not be necessary for a destroyer to come inside this range at all, it seems doubtful whether it would be worth while using them. The destroyer, until she was aware that she was observed, would be steaming at a moderate speed, so as to avoid betraying her presence by flames from the funnels. The moment a search-light is switched on, she would go full speed, and endeavour to close the enemy as quickly as possible. Search-lights could not be used until the enemy was actually seen; the old idea of searching the horizon is long ago exploded, and could only result in collecting all available torpedo craft within 30 miles, and enabling them to make an organised attack, which would hardly fail to be successful. Granting this—what is the use of search-lights at all? They would take an appreciable time to find the object, and this becomes of importance where the safety of the ship is a matter of seconds, and they often only blind and dazzle the captains of guns, and, although enabling them to see the object, prevent them from aligning their sights. For these reasons, I am of opinion that it is bad policy in such a case to use the search-lights at all. If a signal-man can distinguish a destroyer at a distance of a mile or so, surely the captains of guns should also be able to see her without the doubtful aid of a search-light.

As regards the probability of hitting the destroyer—it must be remembered that she is moving at a very high rate of speed, and this and her distance have to be judged, and judged accurately, by each individual captain of a gun, or he is sure to miss her. He has, remember, just been roused up by a bugle, and has about one minute in which to make all these calculations, lay his gun, and hit the object.

This same man, with all the advantages I have previously enumerated, cannot, with any degree of certainty, hit a stationary target in peace-time. Is it likely that, with the added excitement inseparable from such a moment, he would hit a small, rapidly moving object, such as a destroyer, in a vital spot? I think not; and, if we allow this point, it necessarily follows that the destroyers belonging to the blockaded port would suffer but little loss themselves, in comparison to the opportunities they would have of sinking the ships of an enemy, which attempted to carry out anything approaching to a close blockade.

Most naval officers have seen, during peace manœuvres, what utter confusion is caused in every ship by an unexpected torpedo attack. We know too well how guns are fired in all directions, absolutely unaimed, sometimes even from the wrong side of the ship. We know the result of forgetting to put deflection on, or adjusting sights 200 yards out, when firing at a prize-firing target, and we do not forget that here a telescopic sight is used. It naturally occurs to any thinking individual that, with the comparatively inaccurate night sight, still greater care in adjusting sights is necessary; but, we have to admit that, hitherto, the general practice has been to put no deflection on, to lay off the target, to pay but little attention to a few hundred yards, more or less, on the sights, and, I suppose, to trust to Providence that some shots may hit.

I think we may take it, that if a destroyer finds a ship at sea on a dark night, the odds are very much in favour of her being able to fire a torpedo at that ship. We may now consider the chances in favour of the torpedo hitting its mark. These have, of late years, been enormously increased by the introduction of the gyroscope, which

enables one to depend, with almost absolute certainty, on the straight running of the torpedo. What is most likely to cause the torpedo to miss is a wrong estimation of the enemy's speed. The error due to this decreases with the range at which the torpedo is fired, and also varies inversely as the speed of the torpedo. This speed can be taken as 27 knots at 1,000 yards, increasing up to $31\frac{1}{2}$ at 400 yards. At 1,000 yards range the torpedo consequently takes about a minute to reach its target, and, if fired at a ship 400 feet long, crossing the path of torpedo at right angles, an error of 2 knots in the estimated speed of the enemy will cause the torpedo, if aimed at the centre of the ship, to miss. It would not, however, be hard for the destroyer to accurately determine the speed of the enemy before attacking. It is not likely that the ship would sight the destroyer first, the latter being so much the smaller object, and the destroyer would only have to steam on a parallel course for a short time to find out the speed of the enemy. She would, however, be more likely to prefer to fire her torpedo at a closer range, say 800 yards, and here the error would have to be nearly 3 knots to, under the same conditions, cause the torpedo to miss, while it is still further increased to 4 knots at 600 yards. In addition to the above, it seems to me that as the destroyer will not be taken by surprise, the chances are as much in favour of her hitting the enemy, as they are against the enemy hitting the destroyer.

The use of destroyers by the blockaders, for making attacks, will be touched on under the heading of the boom and search-light defences of the port.

The other purpose they could be used for would be watching the blockaded port, and passing on all information to the fleet. This question of the suitability or otherwise of destroyers, for the performance of this onerous and necessary duty, is a most important one, and it is also one which our experience in manœuvres has not yet solved. Being such small craft, and of such light draught, they are evidently more immune from torpedo attack of any description than is the smallest of cruisers. They cannot, however, defy the elements, and to steam fast against a heavy head sea is, to them, an impossibility. It seems probable, therefore, that if these craft were set to watch the blockaded port, without adequate protection being ensured them by the proximity of their own fleet, the enemy would only have to wait for the first on shore gale to send a few cruisers out and destroy them all.

Another most important consideration for blockading destroyers is the question of reliefs. What allowance would it be necessary for an admiral to make to enable the destroyers to coal, effect minor machinery repairs, and give their crews an adequate amount of rest? I think he would probably find it inadvisable to employ more than one-third of his total number of destroyers on the actual blockading work. The rest would be coaling, or resting their crews in some safe port, while a certain number would always have to be held in readiness to replace the broken-down or disabled boats.

There is one use which the destroyers might be put to by the blockaders which I have not yet touched on, and that is to attack the enemy's fleet attempting to escape at night. Now, considering that watching destroyers would, of necessity, be spread out at considerable distances apart, for the purposes of patrol, and also that an escaping fleet would not be likely to venture out without having previously sent out an advance guard, in the shape of all the destroyers and torpedo-boats they could muster, on purpose to engage the attention

of these watching destroyers, it seems to me that any concentration on their part for the purpose of making an organised attack on the escaping fleet would be improbable. The most that the fleet would be likely to encounter near its home port would be attacks from single destroyers; and even these would not occur if the blockading admiral considered (as he probably would do) the rapid transmission of information of an escape of more importance than the possible destruction of one of the escaping ships.

I will now summarise the principal points for and against destroyers which may be deduced from the foregoing remarks:—

1. They would be of the greatest value to the blockaded fleet, for they could be used with a very fair chance of success, and without much risk of loss. They would be able to prevent the enemy from daring to risk his battle squadron by leaving it at night within their radius of action. They could thus keep the blockading fleet at a very considerable distance from its objective, and render its admiral dependent on the efficiency of his watching destroyers and cruisers, and their ability to bring him information in time to enable him to intercept, and bring to action, the escaping ships.

2. They could harass and destroy the watching cruisers with but little risk to themselves, and, working from a safe base as they would do, their crews would always be well rested, and the boats themselves more likely to be efficient in action, for mechanism of all sorts would not have been subjected to the strain and deterioration inseparable from small craft when constantly at sea.

As regards their use to the blockaders, their principal sphere of usefulness would, without doubt, lie in watching all the enemy's movements, and at once reporting them. The fact of their being unable to steam in bad weather, and being then liable to capture by cruisers, militates very much against their usefulness, and necessitates two things:—*a.* That they shall be backed up by cruisers, which could temporarily perform their duties. *b.* That they should have a harbour of refuge within easy reach. The latter would not, perhaps, be an absolute necessity, and would certainly, in many cases, be not easily attained. It seems doubtful whether they would ever be able to carry out a successful attack on an escaping enemy's fleet, and they would certainly have to be frequently relieved. In short the blockaders would require many more destroyers than their enemy, and would probably suffer far more damage from the enemy's boats than they could ever hope to inflict with their own.

TORPEDO-BOATS.

The value of these from a blockading point of view would probably not be great. Even first-class boats cannot act at any great distance from their base, for, in the daytime at any rate, they would be at the mercy of the first destroyer they met. One can imagine their being used from a base on one side of the English Channel to make a raiding attack on a port on the opposite side, but their operations would not be likely to extend much further than this. As a matter of fact, the first-class torpedo-boat is a weapon which is fast becoming, if it has not already become, obsolete as a means of offence. Its place for this purpose has been taken by the destroyer, which is much faster and is better able, on account of its larger size, to keep the sea. It is still, however, of use from a defensive point of view,

and a number of these boats would be a great advantage to a blockaded fleet, as they could assist the destroyers in annoying the enemy's cruisers at night, and forcing them to keep clear of the port.

The majority of the previous remarks as regards destroyers apply equally to these boats, but it must be remembered that their value is by no means so great, owing to their lack of speed and sea-keeping qualities. We have built but few torpedo-boats of recent years, and although the French possess a large number of them, the majority of these are old, and of but small coal-carrying capacity. The smaller torpedo-boats, such as second-class boats and ship's picket boats, would probably be of use to the blockaded fleet in torpedoing watching destroyers. A picket boat could, on a dark night, approach fairly close to a destroyer before she herself was seen, and would very possibly have a good chance of torpedoing her. Attacks of this sort would, at any rate, make the enemy chary of sending his destroyers at all close to the harbour, and would thus make it easier for a blockaded fleet to escape unobserved.

It hardly seems possible that an attack by picket boats could ever be made on the blockaded fleet. In the first place, the ships carrying these boats would have to approach within 20 miles before they could hoist them out. To do this it would be necessary to stop, and, in the daytime, at any rate, the ships would consequently be exposed to the attacks of submarines. Then the chances of success in an attack of this sort would probably be very small. In the first place, there are the enemy's destroyers and first-class boats, which may be outside, to be avoided. There is sure to be a more or less efficient defence of booms, search-lights, Q.F. guns, etc., specially designed to repel this form of attack. True, the booms may be destroyed, but the enemy have to get there first, and I think an efficiently guarded boom would be found a very hard thing to destroy, even if they did get to it. It is just possible that a destroyer, if specially fitted for the purpose and driven full speed, might go over or through any boom; but this would certainly not be the case with a second-class, and probably not even with a first-class boat. For a raiding attack to have any chance of success it would be necessary to first have several feint attacks, in order to induce the enemy to discover his means of defence. Having found these out, an attack could be planned, but I have no faith in the success of these attacks on strongly fortified ports. They have frequently been practised in England, and never, to my knowledge, have boats succeeded in entering the harbour without having been under a heavy fire from shore batteries at comparatively close range. It should also be borne in mind that the officers in the attacking boats would not be likely to have that intimate knowledge of the harbours they are attacking which invariably obtains in peace manœuvres, and which is, of course, of the utmost assistance to the attack.

The conclusions I have arrived at are:—

- a. That from a blockader's point of view torpedo-boats are of but little use, for the first-class boats require a base, and the second-class are too small for attacking a boom defence. The first-class boats, if provided with a suitable base, could be used for raiding attacks, but the utility of these attacks is very doubtful.

- b. Both classes of boat would be of use to the blockaded fleet—the first-class for acting with destroyers in attacking blockading ships, the second-class for keeping watching destroyers at a respectful distance from the port.

I will now proceed to discuss the next weapon on my list, and to point out how it may be expected to modify, if not to entirely revolutionise, the attainment of those strategical objects formerly effected by means of blockades.

SUBMARINE BOATS.

It may be said, with some show of reason, that in this essay I have no data to go on; no tables, no statistics to back up my arguments, and that consequently those arguments are merely matters of opinion, and, as such, are worth but little. It is in the very nature of the case that this should be so. Results and statistics of former blockades might perhaps be given, but they would not be of the slightest value. We have to consider blockades under modern and totally changed conditions, and, unfortunately, we have nothing but conjecture to go by. I am now considering, and trying to arrive at, a correct estimate of the value of the various weapons which might be used in blockades. Those hitherto touched on cannot be said never to have been used in warfare; they have been used, although great improvements have been introduced since the last torpedo was fired from a boat in war-time.

The weapon which I now propose to discuss is entirely new, to a great extent untried, and practically only just emerging from the experimental stage. The French are certainly more advanced than we are in this direction, and they have had some practice at their manœuvres with submarines. We have 5 boats in commission, 4 new boats completed, or nearly so (programme 1902-03), and 10 new boats ordered to be built (programme 1903-04). The French already have 22 boats launched and 17 building, while 31 submersibles or submarine boats (Q 38 to Q 68) were in the list of new constructions, 1902. Of these, 19 will be put in hand in 1903. It is evident, therefore, that the French will shortly have in all their principal ports large numbers of these craft, which will be ready to take their part, and probably a by no means unimportant part, in the protection of their ports, and the prevention of blockades. It is probably contemplated that they shall also be used in an offensive rôle, possibly being towed within reach of the port they are intended to attack, and this being so, they at once become of great importance from the point of view both of blockaded and blockaders. We admit that the submarine is in its infancy; but it seems to me that it is rather early to decry its possibilities when we consider that the "Whitehead" torpedo has taken 30 years to improve from a frequently erratic course of at most 600 yards at a speed of 8 knots, to its present absolute accuracy at 2,000 yards range, with an average speed of 30 knots for 1,000 yards, or 20 knots for 2,000 yards.

Recently, a distinction has been drawn between what may be called two different classes of submarine boats. I allude to the submarines and submersibles. The former term is applied to those boats which have but one means of propulsion, to be used both on the surface and when submerged. Motors are now practically universal for submarines, and these being driven by storage batteries, the radius of

action of the submarine is necessarily dependent on the time for which it is possible to discharge these cells without fear of deterioration of their plates. This is said to be in the case of the "Gustave Zédé," 8 hours and her radius of action cannot, therefore, be much more than 80 miles, although I have seen it stated to be 120.¹ Submersibles differ from submarines in having two separate means of propulsion, one for use on the surface, the other when submerged. This enables a considerable radius of action to be given to them, for their radius is only limited by the amount of fuel (usually petrol) which they can carry for surface propulsion. Their underwater system of propulsion is the same as with the submarines; but they have the great advantage of being able to drive their motor as a dynamo when steaming on the surface, and thus themselves recharge their accumulators. Owing to these differences, a submarine may be looked on as a craft intended solely for harbour or coast defence, while a submersible can be used not only for this purpose, but also for attacking the enemy's ships in their own ports. Take for instance, the "Narval," which is said to be capable of steaming 624 miles on the surface, and 70 miles under water.² She could thus attack any harbour within 300 miles of her base; so that, if stationed at Brest, all English ports westward of Dover would come within her sphere of action, while from Cherbourg she could command the whole of the Channel.

There is very great difficulty in coming to any definite and logical conclusion as to even the present value of the submersible and submarine. It is very difficult to arrive at the exact truth of the results obtained with them during French manœuvres, principally owing to the exaggerations of the French papers. The following is the summary given in the "Naval Annual" of 1902, and is probably correct:—

December, 1898: "Gustave Zédé" twice torpedoed "Magenta," once while at anchor, and once while steaming 10 knots.

1901: "Zédé" torpedoed the "Charles Martel" while under way.

July, 1901: "Zédé" torpedoed the "Bouvet."

July, 1901: "Morse" attempted to torpedo the "Cocyte." Result not known.

December, 1901: "Na. " and "Morse" torpedoed the "Bouvines" and "Valmy."

January, 1902: "Morse," "Narval," "Triton," "Espadon," and "Français" torpedoed the "Bouvines," "Tréhouart" and destroyer "Cassini," one submarine being put out of action. I cannot obtain any further accounts of submarines having actually been tried against ships, although it was recently stated that one of them claimed to have torpedoed a Messageries Maritimes steamer.

I think it will be as well here to quote some opinions on the tactical value of submarines, in order to show what great differences of opinion exist on the subject. Rear-Admiral Hichborn, U.S.N., says:—

"From what I have observed I consider there is a reasonable certainty that submarine boats would be able to go out, if skilfully

¹The "Zédé" is said to have travelled from Ajaccio to Toulon, 130 miles.

²This is, I believe, the official estimate, although Professor C. Busley, in a lecture on submarine boats, stated that the "Narval's" radius of action when awash was anticipated to be only 25 miles.

managed, and destroy a battle-ship blockading a harbour. I consider the price asked for the construction of these boats reasonable. I should not think that the machinery of the 'Holland' is more likely to get out of order than the machinery of a war vessel. It would not cost so much to keep these boats in order as it would torpedo-boats, they are not so delicate. Submarine boats serve every purpose that torpedo-boats serve, with the addition of being under water and out of sight. You would, however, need both as weapons of warfare; they would both play their part, for the torpedo-boat, with her high speed could, if she could do nothing more, go out and attract the attention of the enemy, while the submarine made the actual attack."

Admiral Dewey, U.S.N., says, *à propos* of boats of the "Holland" type:—

"If the Spaniards had had two such boats in Manila, I should have been unable to hold the bay with the squadron I had. The moral effect—to my mind—is infinitely superior to mines or torpedoes, or anything of the kind. With these craft moving under water, it would wear people out. With two of these at Galveston, all the navies of the world could not blockade the place."

To get a pessimistic opinion I have to refer to a German—Professor Busley says:—

"The high cost of submarine boats is shown by the price of the 'Morse,' which has cost £26,000 exclusive of armament and equipment The still existing, and by no means inconsiderable, technical inferiority of submarine craft, which, especially in regard to their small longitudinal stability, cannot be easily overcome, give no great promise for their future. Very little more can be said in favour of the awash boats, which, it is asserted, are not good sea-boats, and their position becomes highly critical if overtaken by bad weather. . . .

. . . Nothing but commendation, therefore, can be bestowed on the German naval authorities for having hitherto not been led astray into costly and wearisome experiments with submarine boats, and for having simply confined themselves to building line-of-battle ships, cruisers, and sea-going torpedo-craft."

I cannot say that I am much impressed with this tirade of the worthy professor, for I notice in his lecture that in addition to several mis-statements, he appears to carefully suppress every point which might tell in favour of the submarine, while he enlarges on their defects at great length. I trust I am not too optimistic, but I certainly think that the opinions of two practical men, naval officers, are more likely to be near the truth than that of any civilian. Besides this, we cannot get away from the fact that the French have practically proved their utility by torpedoing several ships during manœuvres; in fact, it appears as if every attempted attack has, up to now, been successful. According to Professor Busley, their principal defects are:—

1. Small stability.
2. Dangerous control or management.
3. Restricted outlook.
4. Low speed.
5. Small radius of action.
6. High cost.

I believe that 1, 2, 5, and 6 have either been overcome or are not borne out by facts—I should say that the principal defects of the latest type of boats are:—

1. Low speed.
2. Restricted outlook.
3. Inability to steer accurately when submerged.

According to the latest information, we now have an optical tube which is a great advance on any previous one; but I do not know whether any compass has been procured which will act satisfactorily in a steel shell, under water, and in proximity to an electric motor. Another defect in some French boats is, that their turning circle is as much as 600 yards; they also take several minutes to dive, while the "Holland" type dive in a few seconds. The "Holland" boats are said to turn well, but I cannot ascertain what their tactical diameter is. It is evident that a large turning circle is most objectionable, and would probably limit the operations of the boat to open roadsteads, and prevent her from ever attacking in an enclosed harbour, except in the awash condition. Low speed is also a bad defect; it not only makes the boat more easy to avoid, if its presence is suspected, by proceeding at a high speed; but it is liable to prevent the boat from ever venturing into waters where there are strong tides. I should not care, for instance, to have to manœuvre a 7-knot submarine through the Race of Alderney. Having now almost exhausted both the probable and improbable defects of submarines, let us look at the other side of the picture, and see in what ways they could be used for the purpose:—

1. Of preventing blockades.
2. As an auxiliary to a blockading fleet.

It is said that when the "Zédé" attacked the "Magenta," she approached in the awash position till within about 1,500 yards; the wash of her screw was then visible, but her conning tower was not. The "Magenta" knew the direction of approach of the "Zédé," having seen her at 3,500 yards with her bridge up, and this would account for her being able to detect such a doubtful indication of the presence of a submarine as the wash of a screw. It seems safe to infer that any similar submarine could, except possibly in a flat calm, approach well within 1,500 yards of a blockading ship before she was observed. All naval officers know well that the track of a torpedo cannot be followed at much over 800 yards range when there is any lop on. It would be still harder to pick up the track of an *approaching* torpedo under similar conditions, and it is this latter track which would more nearly approximate to that of a submarine.

Suppose a blockading fleet ventures to approach the port in day-time within, say, 20 miles, for purposes of observation, it would probably send a number of destroyers on ahead as a protection against submarines. If the blockaded admiral has surrounded the approaches to his port with his submarines, and given them orders to remain 20 miles in the offing, and to lie in the awash condition, it seems to me that he will have made it far too dangerous for any blockading fleet to venture to approach within these limits. The submarines would be sure to see the destroyers before they themselves were seen—it is always easy for a man in a small boat to see a larger one approaching before he is himself discovered—they would then only have to dive and come

to the surface again when they had given the destroyers sufficient time to pass out of sight. They could lie on the surface without being seen till the approaching fleet was within 1,500 yards, when they would dive, and would be able to fire their torpedoes as the enemy passed them, sighting by means of their periscopes. If this simple plan is sound, and I can see no reasonable objection to it, the distance from the port within which a blockading fleet cannot approach in day-time with any degree of safety depends on two things:—

- a. Whether submarines are stationed at the port.
- b. The distance from their base at which these are able to work.

Given this information, the blockading admiral can ascertain for himself, with the help of a chart and a pair of compasses, whether he is likely to be able to do more than send in an occasional fast cruiser for purposes of observation, keeping his fleet at a distance from the port of, perhaps, at least 50 miles in day time and 100 to 150 at night. These distances are certainly, if anything, under the mark, for in the winter in northern latitudes, where there might be 15 hours of darkness, a destroyer could easily run out 200 miles in order to attack a blockading fleet, trusting to her speed to enable her to escape if she had to return to port in the day time. In the same way boats like our "Holland" subsmeribles would not necessarily have to confine themselves to a radius of 50 miles from their port, for they can travel over 400 miles awash, so that they could at a pinch operate at a distance of 200 miles from their base. It seems, then, that a blockade, if feasible, would, at any rate, have to be carried out at very considerable distances from the port blockaded.

Let us now turn to the second use to which "submarines" might be put—that is, as an auxiliary to the blockading fleet—and see whether it would be possible for them to modify the conclusion which I have just arrived at. Their only possible use to the blockaders seems to be for attacking the blockaded fleet in its port. If they could be used successfully for this purpose it would be difficult to overestimate their value, but could they be so used? In the first place the entrances to most fortified ports are intricate, and by no means easy to navigate at night, unless intimately known. For instance, it seems hardly probable that any foreign officer would be able to take a submarine into Portsmouth Harbour at night, even if there were no boom across the entrance. He would probably very soon find himself swept by the tide on to a mud bank. Owing to the slow speed of submarines, strong tides must be a great drawback to their usefulness, and in narrow waters strong tides are the rule, not the exception.

It seems quite possible to block a harbour for submarines by suspending obstructions from the ordinary above-water boom defence. Even though obstructions of this kind have not yet been permanently attached to our boom defences, they have been successfully tried, and could be made and attached when required.

The great objection, however, to the use of submarines as an auxiliary to a blockading fleet is that they would greatly hamper the movements of that fleet. Submarines are not constructed so that people can live on board for any length of time, and if constantly kept going off a blockaded port, the crews would probably require relieving every day. They would have to return daily to their parent

ship for this purpose, and for replenishing their fuel, and, worst of all, if they are used for attacking the port, their parent ship must lie within the radius of action of submarines from that port, at any rate, while relieving and replenishing the boats. This operation would necessarily have to take place in the day time, and it would possibly not take place often before one of the blockaded submarines would sink the parent ship.

For the above reasons it seems to me that submarines, in their present state, cannot be employed at all as auxiliaries to the blockading fleet unless in the exceptional circumstances of their having a safe base harbour to retreat to.

I have not yet mentioned any methods or schemes for destroying submarines, but I think this chapter will not be complete if I omit to do so, for any value which the submarine may possess as a weapon of offence in the hands of a blockaded fleet must largely depend on the means possessed by the blockaders for defending themselves against such attacks.

The various methods hitherto proposed or tried are of two descriptions:—

1. Offensive.
2. Defensive.

The principal one, which comes under the former heading, is that adopted in our Service, and which consists of arming destroyers with a swinging boom, having a charge of gun-cotton at its outer extremity. This boom is pivoted at the stern of the destroyer, and the outer end is released as far forward as possible, while the destroyer is moving ahead. This swings the head of the boom aft, and at the same time it sinks slightly from the weight of the charge, which can be fired electrically at any time. The idea is that a destroyer *on sighting a submarine* which has come to the surface to take observations, proceeds full speed to the spot, and on arriving there at once fires her charge. If she succeeds in exploding this within 60 feet of the submarine, it is considered that the latter will undoubtedly be sunk by the countermining effect of the explosion on a totally submerged body such as a submarine. It is evident that with a device such as this, in order to increase the charge, and so make its countermining radius greater, it would be necessary either to lengthen the boom, to strengthen the side of the destroyer, or, possibly, to do both. The chances against any man, however much of an expert, being able to judge so accurately as to place and fire this charge within 60 feet of a submarine, which he has probably only seen for a few seconds at a distance of, perhaps, 1,000 yards, seem to me to be so great as to be hardly worth considering. It will take a 30-knot destroyer at least a minute to travel that 1,000 yards, and during that minute even a 7-knot submarine can move over 200 yards in any direction she pleases.

Will the intuition of this expert officer necessarily tell him this direction, especially if, as is most probable, the submarine has sighted him, guesses his intention, and is trying to frustrate it? I think not.

Another objection to any plan which primarily depends on sighting a submarine before she sees you is that this is a most unlikely thing to happen. As has already been pointed out, a submarine in the "awash" position is exceedingly hard to discover, even from the height of a battle-ship's bridge. How much harder must it be from

that of a destroyer which is only a quarter the height? The lookout in the submarine must be far less on the *qui vive* than that in the destroyer not to sight the latter long before his own craft is sighted.

I think that the most we can concede to this method of attack is that it may be of use in enclosed harbours in the day time, when the submarine would frequently have to show herself. It is evidently of little or no value to a blockading fleet.

The only other offensive method I have heard of consists in firing a Whitehead, fitted with a time pistol, in the direction of the submarine. In addition to being open to all the objections already enumerated, one must remember that if the submarine is within range of your torpedoes you are also within range of hers. Therefore, in my opinion, neither of these methods is of the least practical value, at any rate to the blockaders, for defence against submarines.

Defensive Methods.—These are the only ones which appear to me to hold out any real hope of success against a submarine. They consist of:—

1. Torpedo net defence.
2. The obstructions in connection with harbour booms which I have previously mentioned.

Now net defence can never be much more than a doubtful blessing to a blockading fleet. In the first place, it hampers the movements of a ship under way so much that I doubt if it would be possible in calm weather to steam more than four or five knots with nets out, while with any sea on the nets could not be got out at all without risk of carrying the booms away. Secondly, our battle-ships are the only ships now protected in this manner, and even they have not got an all-round defence. From these facts one is bound to come to the conclusion that the possession of a net defence would not justify a blockading fleet in remaining close to the enemy's port either by day or night. It would, however, without doubt, be a great protection to any ships lying at anchor, and would therefore, as with boom obstructions, be a point in favour of the ships blockaded, as these methods would give them a fairly efficient defence against the attacks of either submarine or above-water torpedo-boats.

Before concluding my remarks on the question of the utility of submarine boats from the point of view of a blockade, I wish to quote from a paper on the "Tactical Value of Submarine Boats," by Commander W. W. Kimball, U.S.N. This officer considers that they would prove most effective:—

1. In holding the first line of coast defence, *i.e.*, a line just outside of bombarding range.
2. In harassing, and, if opportunity offered, in sinking blockading ships, and thus preventing a close blockade of any port defended by them.
3. In holding channels and narrow waters against a fleet attempting to enter.
4. In carrying communications through hostile lines.
5. In fleet operations in company with ships in or off shore.
6. In the clearing away of torpedo mine-fields, etc.

7. In the reducing of a place defended by armoured ships, torpedo mine-fields, marine obstructions, torpedo-boats, dirigible torpedoes, torpedo batteries, and shore works located within moderate range of at least four fathoms of water.

As Commander Kimball assumes for his submarines a surface speed of 16 knots, and a radius of action of 1,000 miles, his estimate of their effectiveness under the 7th heading especially would appear to be much exaggerated. He also assumes them to possess pneumatic dynamite guns, and appears to think that the only way of preventing their entrance into a port would be "well-placed and bulky obstructions, which would seal the port to friend and foe alike." I think I have succeeded in showing that this is not the only way.

I now propose to summarise the conclusions I have arrived at with regard to submarines and submersibles:—

- a. They would be of the utmost value to the blockaded fleet, as they would certainly prevent anything like a close blockade; and even if, in conjunction with torpedo-boats and destroyers, they did not entirely stop its very semblance, they would in time so reduce the numbers of the blockading ships as to enable the blockaded fleet to go out and fight them with every prospect of success.
- b. On account of their slow speed and lack of habitability, they would only tend to hamper the movements of a blockading fleet if attached to it as auxiliaries.
- c. If able to work from a safe base they might assist the blockaders by attacking the enemy's ships in the blockaded port. The success of these attacks would, however, be rendered doubtful, owing to the difficulties of entering the port unobserved, and also to the facilities for defending themselves against such attacks which the ships inside would have.
- d. A blockading fleet would have no reliable means of destroying submarines, and could only hope to avoid their attacks by constantly steaming at a high rate of speed.

I will now go on to the 2nd sub-division mentioned at the beginning of Chapter II., *i.e.*, "Weapons used solely by blockaders," and discuss the question of:—

BLOCKADE MINES.

This weapon is an auxiliary to a blockade, which hitherto does not seem to me to have been appreciated at its full value, by us at any rate; and most foreign nations appear to be ahead of us in this respect. I am not aware that we even yet possess a mechanical blockade mine which has got outside the experimental stage, although I know that we have been carrying out spasmodic experiments with them for the last ten years. I only hope that at last the Admiralty have made up their minds that this is a necessary weapon of warfare, and will not lose any more time before they decide to adopt one of the numerous patterns which have, at one time or another, been submitted for trial. A blockade mine is a weapon which, from its very nature, would be

useful only to blockaders. Our policy hitherto has always been that of the blockader. A strong maritime Power has the rôle of blockader literally forced on it by the fact of the weaker fleet declining to leave its port till a favourable opportunity occurs. The strong Power's object is to stop that opportunity from occurring, and one way of making the mere leaving of the port permanently dangerous is to scatter blockade mines all round the entrance. I see that my pen has run away with me, for I have assumed what I have no right to do: that my readers all know what a blockade mine is. Probably they don't—all—so I must give them some idea of how and when it could be used, and what its advantages and disadvantages are.

A blockade mine is a contact mine (*i.e.*, one which explodes on being struck), fitted with an automatic mooring apparatus, which can be set so as to moor the mine at any desired depth below the surface of the water. Fast light-draught steamers can easily be fitted to carry some hundreds of these mines, and, suspending them from an overhead rail, to drop them over the stern at stated intervals. They would be laid at a depth of about 15 feet below the surface, and their mooring ropes could be sufficiently long to enable them to be moored in any depth below 100 fathoms. A few hundred of these mines scattered about outside the enemy's port would certainly present a formidable obstacle to his safe exit. It would perhaps be hard to arrange to lay them satisfactorily in a place where there was a great rise and fall of tide; but a difference of 15 feet would not matter to them if they were laid 18 feet below high-water level. Consequently they would be of use in the great majority of ports. They would be laid outside the range of the enemy's shore batteries, and they would be dangerous to any cruiser, but not to destroyers except, possibly, at low water.

They can be laid at a minimum distance of about 100 feet from each other without danger of the explosion of one mine countermining the next; but would probably be placed about 150 feet apart. A steamer going 21 knots, or roughly, 700 yards a minute, could drop 16 of these mines at four seconds interval in that time. It would not take her long to get rid of 100. Fast paddle steamers would probably be found most suitable for laying these mines, as they draw but little water, and could pass over any mine-field in safety. They would have to take their chance of torpedo-boats, choose a dark night, run backwards and forwards a few times before the entrance of the harbour dropping the mines, and, having thus got rid of them, depart as fast as they came. Very possibly they could do all this without the enemy having any idea of their presence, in which case their *raison d'être* is entirely justified, and they should be looked on as most valuable auxiliaries.

Even if the enemy knew of the existence of blockade mines without becoming aware of it through the loss of a ship, they would find them most difficult and dangerous things to remove. Neither if they succeeded in removing some of them, could they ever be certain that the enemy had not managed to drop some more during the night. It would be very hard to make it impossible for the blockaders to succeed in running a steamer past the entrance at night; and unless this is made impossible a blockaded fleet would never be safe from blockade mines. Sweeping is almost the only means of removing these mines. It is, as the drill book says, "a slow, uncertain, and tedious operation," and it could not be carried out under fire. Consequently,

if blockade mines were laid at a distance of, say, three miles from the shore batteries their removal could easily be prevented by a few scouts or destroyers outside firing on the sweeping boats.

I am of opinion that if an admiral, ordered to blockade a port, had at his disposal a number of these mines, he would find that the number of ships necessary to maintain an efficient blockade (allowing that such a thing is possible) would be very largely reduced. If this is true, it at once raises the blockade mine to a position of importance which it could not attain solely on its own merits. It would set free some of our ships and enable them to harass the enemy in other directions. This proposition would hold equally good if blockades were declared to be impracticable, and some other form of tactics took their place. What would the expenditure of, say, £200,000 matter if by doing so passive obstructions could be made to take the place of ships?

Our neighbours, the French, have these mines, and would be sure to use them; yet they are distinctly an offensive weapon, and, as such, are surely more suitable for us. It also seems possible that they might create a wholesale panic amongst the enemy's submarines, for were these mines laid down in sufficient numbers, I think the submarines could scarcely fail to sometimes strike them or cut their mooring wires, in either case exploding them.¹

DEFENCES OF THE BLOCKADED FLEET.

Assuming that the blockaded port is made impregnable to ships by land defences and mines, let us discuss briefly how far booms, search-lights, etc., will tend to produce the same result as regards a raiding attack by torpedo-boats or destroyers at night. It seems necessary to touch on this subject, as raids on the blockaded fleet might form an integral, and by no means unimportant part of the blockade.

All our first-class ports, such as Plymouth, Portland, and Portsmouth, have narrow entrances which can be, and are, easily and quickly closed by a boom defence. These boom defences are usually made of wire hawsers, supported by gun-boats and floats, and the approaches to them are lit up by search-lights. Somewhat similar schemes of defence against torpedo-boat attack are adopted by most foreign nations, the boom itself being kept in darkness, but the water in front of it brilliantly lit up. Large numbers of light Q.F.-guns are placed so as to command this illumined space, and the entrances being in all cases narrow, and the guns at close range, they should hardly even at night, be able to miss a torpedo-boat coming within the ray, for it must be remembered these are shore guns, and do not suffer from the disadvantages previously pointed out when discussing the probability of sinking a torpedo-boat from a ship at night.

Any boat passing unscathed through the fire of these guns would then have to get through or over the boom, and, still with search-light and guns playing on her to find the ships, which would be in total darkness. After surmounting all these difficulties, the probability is, that if the ship fired at had torpedo nets out, she would not be damaged. The only nations which still use torpedo nets are the Russians, Japanese and ourselves. Keeping all these facts in

¹ The above was written a year ago, and has not been altered since.

mind, it seems that if the port is properly defended, a raiding attack on it would be a failure, and could but result for the blockaders in the loss of a large number of valuable destroyers, which would probably be far better employed in watching the port, or in looking after the enemy's torpedo-craft.

Feint attacks should always be made in order to force the enemy to discover his defences. Then, if these defences are weak, the attack can be pushed home; but this would not often be done with a capable and alert defence.

Before leaving this subject of the uses and comparative value of the weapons available during blockades, I propose to touch on one thing, which, although it can hardly be described as a weapon, still bids fair to be a most important factor in all future naval warfare. I allude to wireless telegraphy.

WIRELESS TELEGRAPHY.

It is an undisputed fact that quick and reliable information of the enemy's movements is of the most vital importance in all naval warfare. Indeed, it is not too much to say that on it depends the ultimate success of all operations. Especially would this be the case with blockading or watching tactics. The value of wireless telegraphy in this respect has not hitherto been clearly demonstrated in practice. In the blockading manœuvres of 1902, wireless telegraphy was rendered useless to the blockaders through the interference of the enemy's fleet, who were continually using heavy sparks in order to effect this. They were successful in doing so, but this certainly does not prove that wireless telegraphy, even in its present untuned state, is useless.

It a watching squadron is connected by a chain of cruisers, 60 miles apart with an admiral at a distance of several hundred miles, there is no reason why that admiral should not be kept informed with certainty and celerity of every movement of the enemy's fleet. The enemy may try and interfere as much as he likes, but he cannot break the system down. Looking at the accompanying diagram:—Suppose a watching cruiser "A" sights the escaping enemy's fleet at X, and, after observing their course, steams straight towards "B" who is 60 miles off, "A" will try and signal to "B" by wireless, and this will be discovered at once by "X," who will try to interfere with "A." Now "A" being a fast cruiser, can soon put some additional miles between himself and "X," and by using the largest possible spark will reach either "B" or "C" before it is possible for both of them to have come within the sphere of influence of "X's" transmitters. In fact, "A" could send signals to "B," but could receive no replies. The reasons are as follows:—

"A's" receiving instruments would be affected by "X's" spark, for, being between "B" and "X," he would be within range of "X's" transmitter, even if "B" were not. "A" would not, therefore, be able to receive any signals so long as he remained within, say 60 or 70 miles of "X," but nothing could stop him from sending them. Consequently, if "B" is within the sphere of influence of "A's" transmitter, and not within that of "X," "B" should receive "A's" signals correctly. "A" cannot hope or expect to get his signals answered by "B," and previous arrangements would be made so that when "A" made the signal for the enemy escaping in a

certain direction, "B" would merely repeat to "C," "C" to "D," and so on.

During the French manoeuvres of 1902, some watching cruisers at Cape Bon reported the escape of a fleet from Bizerta to their admiral at Ajaccio, 500 miles off, by means of a connecting chain of cruisers. No information is obtainable as to whether the escaping fleet tried to interfere with the enemy's signals, but I think we may take it for granted that they did.

Still it is incumbent on us to obtain a reliable system of tuned wireless telegraphy as soon as possible, and judging from Mr. Marconi's

DIAGRAM.



latest demonstrations we shall not have to wait very long for this, indeed it may already have been arrived at.

Having now completed the necessary, although I fear somewhat prolonged, discussion on the values of the weapons available for blockading purposes, let us briefly summarise the conclusions:—

Destroyers would be of the utmost value to a blockaded fleet, for, by means of them, it would be enabled to constantly harass all ships of the enemy which ventured at night within 100 miles of the port. They could also be used to attack any watching destroyers, and their crews could rest in safety in harbour during the daytime. Repairs to damaged destroyers could also easily be effected by the blockaded fleet in their port.

The value of destroyers used for blockading purposes is very doubtful for the following reasons:—

1. They cannot withstand bad weather, and in case of an on-shore gale would have either to seek the protection of their own fleet, or go into some safe harbour.
2. A very large number of them would be required to make good losses, and to allow for coaling and the relief of crews. This would become more necessary the longer the operations were prolonged.
3. They would probably be unable to make successful raiding attacks on a well-defended port.
4. They are liable to be torpedoed by smaller boats if they approach at all close to the enemy's port at night.
5. They might be able to attack the escaping fleet, but would be more likely to have to forego any opportunity of this sort in order to give instant information to their admiral.

Torpedo-boats are weapons which may almost be considered to be denied to the blockaders, because the reasons already given against the use of destroyers apply with still greater force to them. They would probably be possessed in large numbers by the blockaded fleet, and would be used as auxiliaries to their destroyers and in a similar manner.

Submarines and submersibles are, in their present state, more likely to be a hindrance than otherwise to a blockading fleet, owing to their slow speed and small radius of action. To the blockaded fleet they bid fair to be invaluable, and will probably prevent altogether any possibility of a close blockade. So far, the methods for compassing their destruction are of doubtful utility, except possibly, some forms of passive defences. They could make it impossible for any ships to lie off the port, or even to steam slowly in the daytime, within their radius of action. The best way of avoiding possible attacks from them is to always steam at a high rate of speed when in their probable vicinity, as an attack by them under these circumstances would be exceedingly difficult.

Blockade mines are weapons which should only be used by the blockaders, and would probably be of great value to them. They could best be laid by fast paddle steamers, specially fitted for the purpose, and of light draught. These steamers could be sent to run past the entrance of the port at night, running the gauntlet of the torpedo-boats, and leaving their mines behind them. This could be done night after night, and, very possibly, the enemy would not know what had been done till, on coming out, he lost some ships by exploding them.

The passive defences of all first-class ports can be, and usually are, so arranged as to make a successful raiding attack by blockading destroyers most improbable.

Wireless telegraphy is an auxiliary which even in its present imperfect state should be of very great value to a blockading admiral, as it would enable him to conform to the exigencies of modern warfare, and would allow him to substitute watching tactics pure and simple for the now obsolete blockade with a battle squadron. It is, however, desirable that tuned wireless telegraphy should be introduced into our ships as soon as possible, in order to prevent our signals being interfered with by the enemy.

CHAPTER III.

Having given my reasons in detail which have led me to the conclusion that blockades are now impracticable, I propose to consider the blockade which was recently attempted in the Mediterranean manœuvres of 1902; to point out the risks incurred, owing to the adherence to pure and simple blockading on old-fashioned lines; and finally to evolve a scheme which would have eliminated most of these risks, and would also have given a fair chance of ultimate success to the watching fleet. I am much indebted to Mr. Thursfield's remarks on these manœuvres in the 1903 "Naval Annual." I agree with him that, owing to their totally unreal character, faulty organisation, and methods of umpiring, it would be dangerous to attempt to deduce from the results attained any "correct data as to the chances of evasion" of a blockaded fleet. I also agree with him when he says:—"But their lessons are invaluable. We know now how to conduct a blockade so as to give the enemy far too many chances of escaping. We should know in future how to conduct it so as to give him as few chances as possible." The object of this essay is to point out how these chances may be reduced, and I shall consider that I have not written in vain if I can succeed in showing how to reduce them even by one.

The "special object of the manœuvres" was defined as follows:—"The special object in view in drawing up the scheme of the 1902 manœuvres was to endeavour to ascertain what risks are involved in keeping such a close watch on a fleet in a defended port as to ensure bringing it to action if it issues therefrom. This object was selected because it is the consideration of these risks, taken in conjunction with the amount of mischief the enemy's fleet is capable of doing while at large, and the relative strength of the two fleets, that must determine the question whether it is better to try to bring an enemy to action in the immediate neighbourhood of his port, or adopt some other line of strategy involving less risk to our own ships, but giving him greater chances of evasion." It will be noticed that it is considered necessary, if the enemy is not brought to action in the immediate neighbourhood of his port, that any other line of strategy is bound to give him greater chances of evasion. This is, I think, a fallacy, and later on I hope to be able to prove it so.

The idea of the manœuvres was that a fleet "X" was to be blockaded in Argostoli, which was assumed to be a first-class fortress. The blockading fleets "A" and "B" were each inferior to "X," but superior in combination. "A" and "B" fleets had first-class fortresses belonging to them at Kos and Palmas, the former being about 400 miles to the eastward, and the latter some 700 miles to the westward of Argostoli. There was, apparently, no port within easy reach of Argostoli which "A" and "B" fleets might have used as a flying base. "X" fleet had two possible objectives: to meet reinforcements either to the eastward of Kos or westward of Palmas. "A" and "B" fleets had the advantage of being faster than "X" by about two knots, and their object was to prevent the junction of "X" fleet with its reinforcements before compelling it to engage with a superior force.

The fact of "X" fleet having two possible objectives tended to increase very much the difficulties of the watching fleet. It also seems that it is not very likely to happen in actual warfare, except, possibly, to ourselves. I can imagine the Channel Fleet at Gibraltar wishing to join with either the Mediterranean Fleet at

Malta, or the Home Fleet in the Channel; but what I cannot imagine is the possibility of their being blockaded there.

In these manœuvres the "A" and "B" fleets were separated by some 30 miles when at their rendezvous. They spent the night at these rendezvous, one of which was inside and the other only just outside the 50-mile radius from two of the enemy's fortresses. A third fortress was only about 90 miles from "A." We see here two initial arrangements, both of which are faulty. Fleets which are only strong enough to act in combination should certainly never be separated outside ordinary signalling distance. If they are, great difficulty may be experienced, and much valuable time wasted, before they can again combine. What is to prevent an alert and capable enemy from discovering the rendezvous, and then, possibly, having escaped during the night, attacking one fleet after the other with a superior force, and disabling them both? He may be seen escaping, but then again he may not; and should he not be discovered the consequence may be disastrous. It may be said that the fleets were not outside signalling distance by wireless telegraphy or search-light. Perhaps they were not; but should we know that wireless telegraphy can be interfered with, and signalling with a search-light is most objectionable, as it only discovers your position to all torpedo craft within 50 miles or more. Again, there would be nothing to signal about if the escaping fleet were not discovered, and the first intimation of this might very possibly be the attacking of one or the other of the separated fleets. As a matter of fact, both wireless telegraphy and search-lights failed owing to the interference of the escaping ships. It seems to me that wherever the two fleets were stationed they should always have been kept together, and even more closely at night than by day. They should also have had steam kept ready at a few minutes' notice, so as to lose no time in case of a possible chase, where every minute lost may be of the utmost importance.

The question of being only 50 miles from two torpedo-boat centres I have already touched upon. It is, without doubt, inadmissible, especially when continued for any length of time. Probably the only reason why the "X" destroyers did not attack the battle-ships was because they were content with smaller game in the shape of cruisers and destroyers which were closer in, and also because they only had three or four nights to look round in. One of the conditions of the manœuvres was that the blockaded fleet must leave its port a few days after war commenced. In actual warfare a blockaded fleet would not be likely to go to sea three or four days after the beginning of the blockade, especially as incalculable damage might be done by torpedo craft if it waited a week or two in the hope of profiting by the enemy's mistakes. We must never even hope, still less expect, an enemy to do anything which we should like him to do. Although, owing to the short duration of the manœuvres, a fleet may not be attacked by torpedo craft when lying only 50 miles off their port, it would never do to assume from this that it is safe to remain so close in actual warfare. When we can get manœuvres which approximate, even in some small degree, to actual warfare, then, and not till then, will it be safe to deduce anything of this importance from their results.

The third disposition which I must criticise is that the fleets blockading approached so near the harbour in the daytime that they

could be plainly seen from it. Perhaps, although it was only a year ago, submarine boats were then regarded as so far removed from practical naval tactics as not to be worth consideration. Had the fleets merely passed the entrance of the harbour at a distance of ten miles, steaming fast, it would, although possibly risky, not have been so bad. But we are told that "by daylight the blockading fleets moved in off Argostoli, and the respective flag officers conferred with each other." These are suicidal tactics with a vengeance, and I doubt whether even last year any admiral would have dared to do such a thing had he been blockading Toulon. Why, then, should it be considered necessary to do it during manœuvres, which, it is presumed, are intended to be made as near like the real thing as possible? We must take it for granted nowadays, in trying to elucidate the principles on which blockades should be conducted, that the enemy will possess submarine boats at all his principal ports. Admitting this, it is manifestly injudicious, if not unsafe, to approach within their radius with a fleet in daylight. There should at least be some good reason for doing so, and what the object was here does not appear, for surely the admirals could have conferred just as well elsewhere, and, when necessary, communicated with "X" fleet concerning claims by means of a destroyer.

We are told also that the blockading cruisers and destroyers coaled from colliers or battle-ships at the sea rendezvous. Here again would have been an excellent opportunity for a wandering submersible on the look out for its prey. Nothing would be easier for well-handled submarines than to torpedo ships coaling at sea well within their radius of action from their home port.

The other dispositions of the blockading fleets were to place their destroyers to watch off the harbour's mouth, and their cruisers to form a screen between battle-ships and destroyers. The question of the advisability of these tactics has already been partly discussed under the heading of Destroyers. The large number of cruisers required to effectively watch a port at night seems obvious, unless they are stationed close in; while if they are, the danger from the enemy's torpedo craft is equally apparent. Even at 50 miles radius from the port an arc of about 140 miles has to be patrolled, and how is this possible at night, when it is frequently hard to see a ship without lights a mile off? It would be quite possible for a fleet to pass unobserved through a line of cruisers if they were placed only five miles apart, and the number of cruisers required for this would be 28. A blockaded fleet would have plenty of time to find out beforehand, by careful scouting, the usual disposition of the watching cruisers. It would then make its arrangements accordingly, possibly sending destroyers ahead to attack the cruisers and attract their attention, while the fleet passed unobserved through their line. Another division of destroyers would meanwhile have attacked the inner line of watching destroyers with a similar object in view. As, however, these attacks on watching destroyers and cruisers would have been previously carried out almost every night, they would not necessarily convey to the blockaders the fact that the enemy was attempting an escape.

Do not these simple deductions show us far better than any manœuvres—which are so seldom carried out with any approach to reality—how utterly futile it would be to attempt to blockade nowadays according to the formerly accepted methods? Surely it is high time

to strike out a new line, and, while acknowledging and making allowances for all the changed conditions under which war would now be waged, to evolve some entirely new tactics, which, while reducing the probable loss from these changed conditions to a minimum, will at the same time effect similar strategical objects. The first object of a blockade is to get the enemy to come out as soon as possible, the second is to discover and attack him when he does come out. It seems to me that, in trying to attain the second object, we are too much inclined to forget, if not to entirely lose sight of, the first. Nowadays any attempt at a close blockade would probably defeat the first object altogether, and yet the second is impossible until the first is attained. What sane enemy would ever attempt to escape when he knows that, owing to the faulty tactics of his opponents, he has but to stop in harbour and utilise his torpedo craft to their full extent, to not only escape serious loss himself, but to stand a very good chance of inflicting such irreparable damage on those opponents as would fully compensate for the possible compulsory abandonment of previously arranged plans?

There is another reason, not yet mentioned, which would always render a blockade an exceedingly difficult operation to carry out with success, even if such tactics were otherwise practicable and desirable. I mean the question of keeping up the supply and communications of the blockading fleet. As Sir Cyprian Bridge so well pointed out in a paper on this subject¹ which he read at the Hong Kong United Service Institution, it is necessary to bring stores, especially coal, to the ships, and not to expect ships in war time to be able always to fall back on a base to coal. He points out with great clearness the fallacy of relying on secondary bases, and shows how necessary it is that a flying base should be utilised for the supply of a fleet. Now in a blockade we should have to be prepared to establish a flying base, for, to again quote Admiral Bridge:—"When war is going on it is not within the power of either side to arrange its movements exactly as it pleases. Movements must, at all events very often, conform to those of the enemy. It is not a bad rule when going to war to give your enemy credit for a certain amount of good sense. Our enemy's good sense is likely to lead him to do exactly what we wish him not to do, and not to do that which we wish him to do. We should, of course, like him to operate so that our ships will not be employed at an inconvenient distance from our base of supplies. If we have created permanent bases in time of peace the enemy will know their whereabouts as well as we do ourselves, and, unless he is a greater fool than it is safe to think he is, he will try to make us derive as little benefit from them as possible." For instance, he would prefer us to try a blockade of Toulon sooner than one of Bizerta, or of Cronstadt sooner than Cherbourg. Then he would not only be able to harass the blockading fleet, but a fine scope for his ingenuity would be opened up by the possibilities of attacking long lines of communications and the cutting off of supplies.

Admitting the necessity of a flying base for a blockading fleet—and it can hardly be denied—the question of how this base is to be secured at once crops up. The flying base is not likely to be in our own territory; it is much more likely to belong to the enemy, or, possibly, in violation of all International Law, it may belong to a

¹ The supply and communications of a fleet.

neutral. Under either of these circumstances many difficulties, possibly insuperable ones, would have to be encountered. If it were in the enemy's territory, and railways were plentiful, he could soon, with the help of troops and a few guns, make almost any harbour an exceedingly unpleasant place for any collier to lie in, even if she were protected by a cruiser or two. True, coaling can be carried out at sea, but the transporters for doing so are not yet in general use in any Navy. Still, this seems almost the only solution of an exceedingly difficult problem. Let us look at various fortified ports at considerable distances from any territory of ours, and consider where we could establish a flying base in their vicinity. Within easy reach of Toulon the only place appears to be Pollensa Bay, in Majorca, and that is in neutral territory. The coasts of France and Spain have railways running round them, consequently any attempted use of their unprotected ports for coaling purposes could be effectually resented. Port Mahon is fortified, so we are reduced to Pollensa Bay for an unprotected port away from a railway, and even this could be harassed if troops were sent from Palmas. Also the use of a neutral port for warlike purposes would probably lead us into a rupture with the neutral nation, and, being a gross breach of International Law, should, to my mind, not be considered for an instant. Cronstadt might possibly be blockaded, using a flying base among the islands of the Baltic, but here there would be a line of communications over 1,000 miles in length to protect. Many suitable flying bases could be found among the harbours on the coast of Korea, from which to operate against Vladivostok or Port Arthur, although here again communications would have to be kept up with Hong Kong, over 1,000 miles off. As Admiral Bridge remarks:—"The efficiency of any arrangement used in war will depend largely on the experience of its working gained in time of peace." As we have no experience of supplying flying bases in peace time, I naturally doubt whether we could do so effectively in war time. And when we come to think of it this question of the ability to keep up a constant and effective supply of coal and stores lies at the root of the whole matter of close blockades. If we can manage it, then perhaps a blockade is possible; if we cannot, it most certainly is impossible.

If, instead of attempting any sort of blockade with a fleet of battle-ships, we substitute a more or less close watch with cruisers, and arrange so that when the enemy puts to sea the fleet of battle-ships shall be immediately informed, we shall get rid of all, or nearly all, of the many objections to a blockade. The question is whether it is possible to:—

1. Carry out this watch effectively.
2. Effect by means of it the ultimate object of the blockade—
i.e., the bringing to action of the enemy's fleet.

I think that both these things are possible in the vast majority of cases, and I now propose to show how such a watch can best be carried out.

In the first place, I shall assume that the enemy's objective, when he leaves his port, is known. This does not appear to be too much to assume, for we must remember that ships nowadays have not that wide range of action they had in the time of sailing ships. Then they might, and frequently did, have several possible objectives, and they did not mind going by very roundabout ways in order to arrive

at the desired spot, for they could keep the sea so long as their provisions and water held out. Now, coal is of paramount importance, and a nation which does not possess coaling stations well outside the immediate environs of its own coasts would be necessarily circumscribed in the radius of action possible for its fleets. Probably this question of coal would be sufficient, combined with the known position of possible reinforcements, to determine the objective. It may be said that it would be possible for any nation to establish flying bases, and so to make the possible objective of its fleets independent of coaling stations, but would this be true? How many nations possess a merchant navy capable of keeping up a regular supply of coal to a far-distant base in war-time? Possibly we could do it, with our enormous resources, but I should like to see it tried before I would venture to say that other nations could do the same. In short, I have but little doubt that, in most cases where blockades would apply, the ultimate objective of the enemy when escaping would be sufficiently obvious. The ultimate objective would certainly, in most cases, be reinforcements, but there might be the intermediate objective of a coaling station en route. The object of the blockading fleet is to place itself somewhere on the line by which the enemy must travel, in order to reach his objective, and at the same time to be kept informed of his movements.

There is no reason why the blockading fleet should not remain at anchor in some safe port so long as that port is near the line by which the enemy must travel. In fact, there are many reasons why it is better to lie at anchor than to remain at sea. The first and most important reason is that the ships can always be kept ready for sea and complete with coal. Then, again, the ships can be kept more efficient in every detail, for even large defects can be made good at once. Nowadays the efficiency of the ship for fighting purposes depends on the efficiency of her machinery and the ability of her guns' crews. As regards the former, defects are more likely to develop after some considerable time at sea than shortly after leaving harbour. The latter is a matter of constant practice, and a great deal of this practice can very well be carried out in harbour. An occasional day at sea will suffice to keep up gunnery efficiency, and this could be indulged in at any time without appreciably depleting the coal bunkers. Another advantage to the ship just out of harbour is that she would have clean boilers, and would consequently be in much better condition for chasing the enemy's fleet than if she had been at sea for some weeks. For these reasons I think that the old objection to a ship stopping in harbour—namely, that it impaired her fighting efficiency, no longer holds good.

Admitting that it would be wise to keep the battle fleet in a suitable harbour, with an occasional day at sea for gun practice, we can now turn our attention to the problem of keeping that fleet constantly informed of all movements of the enemy. I have already indicated that this must be done by watching cruisers connected to their battle fleet by wireless telegraphy. The questions are:—How should these watching cruisers be disposed? and how many would be required? The answer to the first question, I think, is as follows:—They should be disposed on an arc of a semi-circle round the enemy's port at such a distance that the enemy, if he left his port at dark, could not have passed through their line before daylight. The advantages of this disposition are:—

1. They would be at such a distance from the port and so far apart from each other that, even if they were within reach of destroyers, the latter would have the utmost difficulty in finding them at night.
2. They would be outside the probable radius of submarines during the daytime.
3. They would stand a good chance of discovering any escaping fleet, as it would probably have to pass them in the daytime.
4. They could search the space inside their arc of observation by sending cruisers to do so in the daytime. They could thus force the blockaded fleet to leave at night in order to do so unobserved.
5. It would not be necessary for all the watching ships to be cruisers. Fast merchant steamers would do equally well, provided there were sufficient cruisers to prevent any concerted attack by the enemy's cruisers.

DIAGRAM "A."



It will be seen from the attached diagram A that, if we allow 40 miles to each patrolling ship, the number required to cover a semi-circle completely would be about 11 at 150 miles, or 15 at 200 miles radius. It is doubtful if a ship could patrol 40 miles satisfactorily even in clear weather. This, however, would be for the admiral to decide, and he could close the ships up if necessary by moving the whole line nearer in. Each ship would be in touch with those on either side of her by means of wireless telegraphy. Another question is, whether it is necessary to cover the whole semi-circle with ships, and allow no loop-hole. It would require a great many ships, and would probably not be necessary, but questions of this sort could easily be determined by manœuvres. The general plan is all that I indicate, the special application of it must depend largely upon circum-

stances. Possibly, a disposition such as that shown by the diagram below, B, would be found effectual. The 8 cruisers forming the watching arc could be placed 30 miles apart, and their patrolling ground could occasionally be varied to prevent the enemy from ascertaining its exact position. The first cruiser of the chain which stretches back would always be about 60 miles from the arc covered by the patrolling vessels.

A system of watching such as this would not require elaborate arrangements to be made for the supply of the watching ships. Four extra cruisers would probably enable the watching ships to be relieved as often as necessary for coaling purposes. If short of cruisers, "B," "D," "F," "H," "L," "N," and "P" might be fast merchant

DIAGRAM "B." Scale, $\frac{1}{2}$ inch = 100 miles.



steamers—they would be able to carry more coal than cruisers, and would not, therefore, require relieving so often. It would probably be found advisable to place the connecting chain of cruisers so that their line cut the probable track of an escaping enemy. This would, perhaps, enable them to sight an enemy which had evaded the watching semi-circle of ships. Some such plan as this appears to hold out very reasonable prospects of sighting any escaping enemy, and of quickly communicating intelligence to the base. No plan of what may be called a watching blockade is likely to be so perfect as to leave no chance of the enemy being able to escape unobserved. All I can hope to do is to formulate some general scheme, and show that the chances are in favour of its being successful. The great difficulty with such a blockade would probably consist in keeping up the communications, but with practice and good instruments this should not be impossible.

The wireless telegraphy apparatus would probably be occasionally interfered with by the enemy, especially when attempting to escape. Atmospheric disturbances would also affect it, and prevent the taking in of signals. With good organisation, and especially with properly tuned instruments, these difficulties are not insurmountable. In fact, I think that of the two, the atmospheric disturbances will be the harder to overcome, and the enemy would have a better chance of escaping during a thunderstorm than at any other time, except, perhaps, during a fog.

In order to be independent of wireless telegraphy in view of a possible breakdown, I think the kites which have recently been tried should prove of great value, if used by a semi-circle of ships watching a port. A man has recently been lifted by one of these box kites to a height of 1,200 feet, and a greater height than this could possibly be attained without much difficulty.

Using the formula of the square root of the height in feet, giving the radius of vision in miles, we find that a man 1,200 feet up can see about 35 miles.

Evidently these kites bid fair to be valuable auxiliaries to the watching tactics which I have proposed. It will be seen by looking back at diagram A that it would take about 14 ships to watch a semi-circle with radius 200 miles, allowing 40 miles to each ship. If these kites can be used, there seems no reason why each ship should not be able to patrol 70 instead of 40 miles. Then the complete semi-circle could be watched, at a safe distance from the port, using only about 8 ships, exclusive of the connecting links to the base.

In fact the 8 ships shown in diagram B could be spread out so as to cover the whole semi-circle.

Another advantage to be obtained from the use of kites would be that any ships sent inside the semi-circle during the daytime, in order to observe the movements of the enemy, would only need to approach the port close enough for an observer in a kite to see and report their movements. Consequently, these ships could pass 30 miles or so from the port, and at this distance, they would undoubtedly run much less danger from the attacks of submarines than if they had to pass closer in shore.

Another use which seems probable is, that of detecting the presence of submarines. It is well known that given clear water and the sun abaft the beam, coral rocks ahead can easily be seen by a man aloft. Probably from a kite it would be possible to detect the presence of a submarine, if not by actually sighting her, at least by tracing her wake on the surface.

It may be said that it would frequently be hard for a man to see 35 miles from a kite, owing to bad weather. He could not, of course, see this distance during rain or mist, but I think that generally speaking, inability to do so would be quite exceptional, especially in the Mediterranean.

CHAPTER IV.

Having now explained the principles I should adopt in order to maintain a close watch on a port, I propose to state a supposititious case, and then go into details as to the number and classes of ships which would be required, and the arrangements which would have to be made

as regards their relief, etc. This seems to me a better plan than to mention individual ports of a possible enemy, and then to state in detail how to carry out a watching blockade. If I did this, I should simply weary my readers with constant repetition of the same principle adapted to the circumstances of each individual case. We can, one and all, with the help of a chart, apply the principles for ourselves so long as we have a good example given us. All that I ask you to admit is, that it is possible for us to find a fortified coaling station somewhere near the line of the enemy's probable objective. What with our fortresses of Malta and Gibraltar, and our home ports of Plymouth, Portland, Portsmouth, Dover and the Nore, to which may soon be added St. Margaret's Hope, we seem to be particularly well-equipped in this respect, at any rate near home. If we look further abroad, we shall find ourselves still better off, so much so that I have no doubt that it would be impossible in war-time for any nation to send ships to the Far East without our permission, for we hold all the coaling stations en route. It will thus be seen that my scheme, which primarily depends on the existence of a suitable fortified base, while practicable for us, would not necessarily be so for our enemies. They might have to act differently in order to carry out a similar scheme, and they would probably find the establishment of a flying base for their battle-fleet by no means easy of accomplishment; yet there would be no other alternative except the still more impracticable one of keeping their whole battle-fleet at sea. In either of these cases long lines of communications would be necessary, unless in the improbable event of their being so superior in battle-ships as to be able to afford to constantly relieve those employed at the flying base in order to enable them to return to their nearest coaling station.

Let me now state the supposititious case:—

An enemy's fleet consisting of 8 battle-ships, 2 armoured cruisers, and 3 first and second class protected cruisers, has taken refuge in its home port. We have at our disposal a superior fleet consisting of 12 battle-ships, and a base 500 miles off the enemy's port and within 200 miles of the line of his probable objective. The question we require to decide is:—How many cruisers and other craft would be required in order to effectually carry out a watching blockade? We will assume the enemy's port to be well provided with destroyers and submarine boats, that there are about 10 hours of darkness every night, and that the maximum speed of the enemy's battle fleet is 15 knots. These are all the data we are likely to know, and they are sufficient for our purpose.

The first thing to decide on is the minimum number of ships which would have to be kept continually at sea, and the positions that they would occupy. The different classes of cruisers required would also have to be fixed on, this being entirely dependent on the number and strength of the enemy's cruisers, for it is evident that unless the watching cruisers can at all times hold their own against possible combinations of the enemy's cruisers the watch would soon be one only in name.

As the enemy's fleet can steam but 150 miles between dark and daylight, I propose that the patrolling ships should be placed on the arc of a semi-circle at a radius of about this distance from the enemy's port. It would certainly be best to watch the whole semi-circle, and thus to leave no loophole of escape, and to do this an arc of about

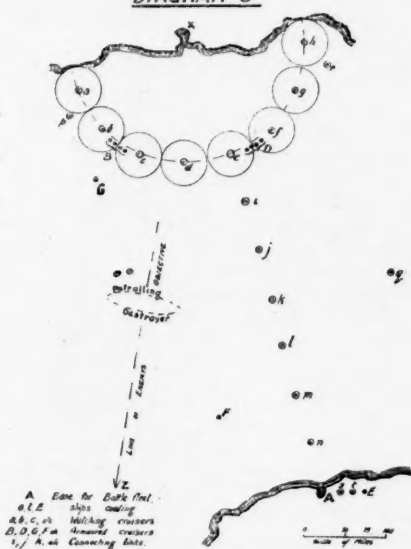
450 miles would have to be covered by the watching ships. If we allow that ships using kites can see 32 miles, seven ships would just be able to effectively watch this arc in the daytime. As regards the 350 miles between the semi-circle of watching ships and their home port, five ships placed 60 miles apart could cover this space with wireless telegraphy. Besides the watching semi-circle, and the connecting links, other ships would be required in order to steam past the enemy's harbour during daylight, and make sure that he has not left the port. With many harbours kites would again be found most useful for this purpose, as from a kite it would frequently be possible to see right into the harbour from outside. At least two ships would be required for this daily scrutiny of the harbour's entrance. Probably destroyers would be found most useful for the purpose. We therefore get the minimum number of watching craft which would have to be kept at sea as 14, but we must remember that every additional ship will increase the efficiency of a watching blockade by enabling the ships in the semi-circle to be placed closer together, and thus guard more effectively against the possibility of the enemy's fleet slipping through unobserved in misty weather.

We may now go into the question of the number of reliefs which would be required in order to keep these watching ships always supplied with enough coal to meet any emergency. It is evidently undesirable to allow ships in the watching semi-circle, which may at any time have to follow an escaping fleet, to be short of coal. Coal for the ships acting as connecting links would not be of such great importance, for the nearer any ship was to her base the less coal she would require. In case of an escape of the enemy's battle fleet it would be the duty of the ships of the watching semi-circle to keep in touch with the escaping fleet, and all that the connecting links would have to do would be to keep in communication by wireless telegraphy with the chasing ships, and also with each other. The connecting links would not, therefore, have to steam fast or far, more especially when near their base. For the above reasons I should propose to relieve ships in the watching semi-circle about every four days, and for the ships relieved to drop back and become connecting links. All connecting links would then move in towards their base, the nearest ones proceeding into harbour for coaling.

Diagram C illustrates this principle, and shows the positions of all the watching ships, and also of their reliefs. We will suppose that two of the watching cruisers have to be relieved every morning at daylight, and that in order to do this the reliefs *p* and *r* had to leave their base *A*, at least 36 hours before they arrived in the positions shown, when they would relieve *a* and *h*. When *a* and *h* have been relieved the signal to relieve would go right down the two quadrants to *c*, and thence down the line of connecting links. Ships in the semi-circle would then steam 60 miles towards the centre of the arc, *a* taking *b*'s place, *g* that of *f*, and so on. *d* and *e* would steam towards the exact centre of the arc, and then turn 8 points to relieve *i* and *j*. *i* would remain in position till she got *e*'s signal that he had turned, and then the whole line of connecting links would move in 120 miles nearer their base, *n* and *m* proceeding into harbour to coal. *d* would remain at the centre of the arc of the watching semi-circle until *e* had opened out 60 miles from her, when she would take up the position held by *i* in the diagram. At daylight, when *p* and *r* would relieve, *o* and *q* would be 12 hours or more out from base *A*, *s*

and *t* would be in harbour coaling, having arrived the previous afternoon and evening, and they would sail that evening. By this means none of the watching ships would be more than eight days without coaling. They would be steaming for some hours every day in order to change station, and each night they would lie stopped, with all lights out, at a distance of 150 miles from the enemy's port. They would thus be probably able to escape from both submarines during the daytime, and from destroyers and torpedo-boats at night. Two ships would arrive at and two more would leave the base every day, and the ships with least coal would always be nearest to their base.

DIAGRAM C



It will be remembered that I previously gave 14 ships as the minimum number which would have to be constantly at sea, inclusive of two ships for scouting off the harbour's mouth and exclusive of all reliefs. It will be seen from the diagram that I have increased the number in the watching semi-circle from 7 to 8, and the connecting links from 5 to 6. This would allow for two casualties, without reducing the watching ships below the minimum number necessary for efficiency.

The total number of watching ships with reliefs is shown in the diagram as 20. Separate arrangements would have to be made for the scouts, which would go inside the semi-circle, and give notice of any attempt on the part of the enemy to leave the harbour during daylight. Probably a small flotilla of destroyers, stationed between *d* and *e*, would be found sufficient to effect this purpose. If the weather was likely to be too bad for destroyers a fast scout or armed merchant steamer could be stationed near *a*, with another near *h*, and they could exchange positions every day, crossing the mouth of the

enemy's harbour at different times. In this case a third scout would have to be kept at the base to relieve these two ships. These scouts or merchant cruisers could be fitted up for dropping blockade mines, and they would do this at night when first they arrived on their station. If their draught of water was less than the set depth of the mines so much the better, for then they could safely pass over the positions where mines had been previously dropped, and drop more if necessary. In fact, after blockade mines had once been dropped, it would be unsafe to send any deep draught ship off the entrance of the harbour, as the positions of the mines would only approximately be known, and great risk would be incurred in consequence.

As an additional safeguard, in case of the enemy's fleet having succeeded in escaping unobserved, I would have a flotilla of destroyers cruising in the direction shown by the dotted lines, within 250 miles of their base. These destroyers would be cruising across the line of the enemy's objective, and, in the event of sighting his fleet, they would at once give notice of the escape to the nearest connecting link *l* or *m*, and thus to their fleet at *A*, which would probably get the information in time to intercept the enemy at *Z*.

In order to prevent the possible disorganisation of the watching cruisers by attacks on the part of the blockaded cruisers, it would be necessary for small fighting squadrons of cruisers to be placed in positions near the watching semi-circle. These fighting squadrons would have to be proportioned according to the strength of the enemy's cruisers, and would probably consist of armoured and first-class cruisers. I have shown two of these squadrons, *B* and *D*, and three ships are shown which would act as reliefs. Probably the best way to relieve these ships would be to always relieve ships in *B* squadron, so that the relief in going out crosses the line of the enemy's objective. *B* would then send one ship to *D*, and *D* one to *A* to coal. By this means *D*, the squadron furthest away from the enemy's objective line, has less coal than *B*. As *B* is more likely to require the coal for chasing purposes, some such arrangement as this seems advisable.

The ships of *B* might be stationed 10 miles apart between and in rear of *b* and *c*. If the enemy's cruisers were sighted, the ships in the watching semi-circle would drop back, preserving, as far as possible, their relative positions, and at the same time signalling to the nearest squadron to proceed to their assistance.

I have not yet mentioned what classes of ships could be used for the watching semi-circle and connecting links. I think the only necessary qualifications for these ships are, that they must be fast enough to evade the enemy's cruisers, at any rate until help can reach them, and they must have sufficient gun-power to enable them to sink a destroyer in the daytime. Our new scout class would probably be excellent ships for these watching tactics, but, if short of cruisers, armed merchant-ships could possibly be made to take their place. I daresay that many of the fast cross channel steamers could be made to carry enough coal at a pinch to last them for some time. Possibly, the removal of some top hamper in the shape of a promenade deck, and the filling up of the saloon with coal, would enable this to be done. Ships like the "*Isis*" and "*Osiris*," of the P. & O., would probably be also suitable. It is evident that large numbers of cruisers would be required to carry out any such scheme as this, but we are particularly well off in this respect, and therefore, the plan is feasible for us, and is certainly worth trying in default of something better.

Another point to be borne in mind is, that the possession by the blockaded fleet of even a few fast armoured-cruisers might be sufficient to upset the most elaborate watching tactics. One armoured cruiser is equal to several merely protected cruisers, and it would be absolutely necessary to have armoured cruisers in the watching line if the enemy possessed them. They would also be necessary in the connecting chain to save it from being destroyed by one of the escaped enemy's cruisers. I have not put down large numbers of armoured-cruisers in my plans, but solely for the reason that we do not yet possess many. They would be undoubtedly the best of all craft for carrying out a watching blockade, for, leaving torpedo attack out of the question, they would have nothing to fear from any enemy except a battle-ship, and having the advantage in speed, they could follow a battle fleet and observe its movements with but little risk of being driven off.

An advantage to the watching ships, in that they lie at such a great distance from the port watched, comes in here. If the blockaded fleet sent armoured cruisers out, they could be dogged by destroyers, if not brought to action by other cruisers. The cruisers would hardly be able to get back to their port before dark, and the destroyers could attack them as soon as it was dark enough. Without doubt, destroyers would be of great use to the watching fleet, both for this and other purposes, especially for that of running despatches in case of failure of wireless telegraphy. The only reason I have not laid more stress on their use is, that I believe they could not act far from their base except in the Mediterranean. In the Atlantic and North Sea it would probably be found that their place would have to be taken by scouts, especially in prolonged operations.

The ideal ships for these tactics would, in fact, seem to be the very ones we are now building, viz.:—armoured cruisers and scouts.

In default of a sufficiency of these, we should have to make shift with what we possess, and I have tried to indicate the lines on which this should be done.

If the vicinity of the port watched was liable to fogs, I should make every endeavour to keep large numbers of destroyers among the watching ships. These would patrol close in during a fog, retreating again directly it lifted.

I have now discussed at considerable length, the whole of what seems to me the vital part of this essay. I have indicated the tactics which I think should take the place of blockades. They may be faulty tactics, or they may be the reverse, but they are probably worth a trial. We should, however, in order to give any tactics of this sort a fair chance, introduce as soon as possible a reliable system of tuned wireless telegraphy, and also introduce a suitable kite into the Service. Without these two things, watching tactics will require more than double the number of ships that I have suggested, and even then the results would not be so reliable. Let us get these inventions perfected and in use without delay, and then I think we may for a while rest content with the knowledge that until the flying-machine becomes of some practical utility, we are in possession of the best possible machinery for watching and bringing to action an enemy who has taken refuge in his own ports.

Probably, exception will be taken to many of the propositions which I have made; for instance, it will be said that it is ridiculous to attempt to guard such an enormous arc, and that it would be quite

safe to keep cruisers much closer in. Well, should it prove to be so, the problem will be possibly easier of solution. I shall probably be also told that I have over-estimated the value and powers of submarine boats. I can only answer that, for the same reason, I hope I have. I fully expect to hear that the value of destroyers to a blockading fleet has not been sufficiently appreciated by me, and that that of wireless telegraphy has been exaggerated. It may be so, but with all these questions, there is but one way to enable us to come to a right decision, and that is the test of actual practice. Nothing conclusive has yet been proved, for all our manœuvres are so unreal. We do not yet know whether we can hit destroyers or torpedo-boats at night, although we know that their torpedoes can hit ships. Is it possible, until this vital question is solved in actual warfare, to gauge their real value? I am afraid that it is not, and I therefore feel that I can take leave of my readers without apologising for what must seem to many of them an exaggeration of the difficulties and dangers of the problem which I have had before me, and to some, possibly, merely a collection of very far-fetched ideas.

PROBLEMS OF NEUTRALITY CONNECTED WITH THE RUSSO-JAPANESE WAR.

*By the Rev. T. J. LAWRENCE, M.A., LL.D., Lecturer on
International Law at the Royal Naval College, Greenwich.*

Wednesday, 25th May, 1904.

Vice-Admiral Sir R. H. HARRIS, K.C.B., K.C.M.G., President of the
Royal Naval College, Greenwich, in the Chair.

I CANNOT begin this lecture without expressing my gratitude to you, Sir Robert Harris, for consenting to take the Chair, and referring to the great loss which the Service and the nation have sustained through the sudden death of the distinguished officer who was to have presided on this occasion. Having been privileged to work under Rear-Admiral H. J. May at the Royal Naval College, I can appreciate and admire the keen insight, the untiring industry, and the scientific skill he brought to bear upon the important duties entrusted to him. The naval officers who attended his war course can better bear testimony than a civilian to the immense value of the instruction of which he was the heart and soul. But I can venture to praise his zeal, his loyalty to friends and colleagues, and his whole-hearted devotion to the Service of which he was so great an ornament. His bodily presence has left us all too soon; but his work will live long after him.

The war in the Far East has been prolific of questions which concern the mutual rights and duties of neutrals and belligerents. Since I undertook to read this paper so many problems have arisen that it is necessary to make a selection among them. Some I can barely allude to in passing. Others must be dealt with briefly. To one or two which seem to me of special importance as regards our own country, I hope to give fuller consideration. These will be reserved for the latter portion of the lecture. I take the others first, in order to move them out of the way. It is not that they lack interest, but that to Great Britain they are not vital questions.

But before I deal even with them I must say a word or two about a matter which has arisen since this paper was written. I refer to the question of submarine mines, as illustrated by the destruction of the "Hatsuse." We do not yet know all the facts of the case; but, speaking on the spur of the moment, and with imperfect knowledge, I am inclined to say that if the Russians deliberately created a mine-field outside their own territorial waters, they violated all just principles, and went far beyond their rights as belligerents.

There are no precedents for such an act. If it has been committed it is unique, and it is also outrageous.

The first matter, already in print, to which I will direct your attention is:—

THE RESCUE OF BELLIGERENT COMBATANTS BY NEUTRALS AT SEA.

It is strange that the second day of the Russo-Japanese War should have witnessed the raising of a question which baffled the Hague Conference of 1899. Towards the close of the discussions on the application to maritime warfare of the principles of the Geneva Convention, Captain Mahan, who was one of the Plenipotentiaries of the United States, noticed that no due provision was made for the final disposal of those who were rescued by neutral vessels. A general right of relief and assistance was given by Articles III. and IV. to duly authorised hospital ships belonging to neutral individuals or societies. Article VI.¹ went further and declared that "Neutral merchantmen, yachts, or vessels, having, or taking on board, sick, wounded, or shipwrecked of the belligerents, cannot be captured for so doing." Obviously, the sick and wounded require attention. But the shipwrecked (*naufragés*), who are well defined by Captain Mahan as "men overboard for any cause during or after naval battles," may be strong and vigorous. What is to be done with them by neutral rescuers? The proposed Convention did not say; neither did it give any directions for the treatment of the sick and wounded after they had recovered under neutral care. It declared that those who fell into the hands of their enemies were prisoners of war, and it contemplated as a possibility the landing of the shipwrecked, wounded, or sick at neutral ports with the consent of the local authorities. In such a case Article X. provided that they must be guarded by the neutral State "so that they cannot again take part in the military operations," unless a contrary arrangement was made with the State to which they belonged. The expense of their internment was to be borne by their own country.² These directions applied to only one set of circumstances out of several. But, vague and incomplete as they were, they gave rise to so much disagreement and so many reservations on the part of important Powers, that the Article which contained them was left out by general consent when the Convention was ratified. Therefore, as that instrument stands now, it binds the signatory Powers to less than it did when Captain Mahan noticed its deficiencies. These he endeavoured to remedy by proposing three additional articles, which, however, dealt only with the case of men saved from drowning by private neutral vessels. They provided that such a rescue should be deemed no violation of neutrality, but the rescuers should be bound to give up the rescued to the first belligerent ship of war which demanded them, whether the surrender delivered them into captivity or placed them again in the fighting line. If no demand were made by either side, the men were to be "considered *hors de combat*, not to serve for the rest of the war, unless duly exchanged."

These propositions were finally withdrawn, lest their further discussion should endanger results already achieved. But the Pleni-

¹ Parliamentary Papers, *Miscellaneous*, No. 1 (1899), p. 351.

² *Ibid*, p. 352.

potentiaries expressed a unanimous wish that Switzerland would soon call a Conference with a view to a revision of the Geneva Convention.¹ When such a Conference meets, the events which occurred in the harbour of Chemulpo on February 9th, 1904, will form an important precedent for its guidance. We all remember how, just before mid-day, the Russian cruiser "Variag," followed by the gun-boat "Koreetz," steamed out, and fought with a Japanese squadron for about an hour. They then returned in a crippled condition, and crowded with wounded men. What happened immediately afterwards it is impossible to say with absolute certainty. There were present in the harbour the British cruiser "Talbot," the U.S.S. "Vicksburg," the French "Pascal," and the Italian "Elba." All these appear to have given help, though to what extent is still doubtful—at least to those who have only the published documents to rely on. The American captain reports that he "sent three boats, and assisted in taking off the Russian sailors, putting them on board British and Italian vessels." The commanders of the other vessels received large numbers of Russian officers and men on board their ships; but the different accounts do not agree as to the exact circumstances in which this was done. M. Pavloff, the Russian Minister at Seoul, says "The captain of the 'Variag' sent his crew and his wounded on board the British, French, and Italian cruisers." This implies a deliberate act, planned beforehand, and carefully carried out; whereas the report of Captain Nicol to the French Minister of Marine declares that the Russians "jumped into the water, and were rescued by the European ships." On the other hand, there is no mention of such a panic-stricken rush from the injured vessels in a graphic description of the scene by "an eye-witness," which appeared in the *Daily Telegraph* of February 26th, 1904. Whether or no the writer was an officer of the "Talbot," he evidently had exceptional opportunities of seeing all that went on. He tells us that directly the Russian ships regained the harbour the wounded "were lowered into boats and taken to the 'Pascal,' 'Talbot,' and 'Elba,'" and then, after a time, the unhurt members of the crew were similarly ferried into safety. Even this, according to him, did not exhaust the good offices of the neutral commanders, for when at 4 p.m. the "Koreetz" blew up, "the 'Variag' remained apparently unmoved, but the Russians boarded her again in the 'Pascal's' boats, and set her on fire."

There can, I think, be little doubt that more was done in the way of aid than the mere rescue of drowning men; but how much more we cannot venture at present to define. The Japanese made no diplomatic protest, and therefore we may assume they did not consider themselves to have been wrongfully deprived of prizes and prisoners through the action of the British, French, and Italian captains. They did, however, demand the surrender of the escaped Russians as prisoners of war. The neutral commanders demurred, and, after some time spent in negotiations, the matter was settled by an arrangement which contented all parties. The rescued seamen were taken away by neutral ships, and handed over to the Russian vessels outside the area of hostilities, the Japanese Government being content for them to return to Russia on an honourable understanding that they should not be employed again during the war.

¹ For a full account of this incident at the Hague, see Holls, *The Peace Conference at the Hague*, Ch. IV., and Appendix II.

The Chemulpo incident shows, among other things, that provision will have to be made in future for assistance by neutral ships of war, as well as by neutral hospital ships and ordinary neutral vessels. The nature of such provision is still open to controversy. I hope to see the rejection of Captain Mahan's idea that neutral rescuers should be bound to give up their unhurt refugees to the first belligerent warship which demands them. Surrender to one side means that they will again become combatants, surrender to the other that they will be made prisoners of war. To assist in bringing about either of these consummations is inconsistent with neutrality. There remain the alternatives of "internment"—that is to say, keeping them in honourable detention under neutral guardianship for the rest of the war—or handing them over to their own friends in exchange for a solemn promise that they shall not serve again while hostilities continue. Either course seems right in principle, and we may well allow convenience to decide between them. It is difficult to imagine a case where negotiations between the neutral and the belligerents would not lead to a satisfactory arrangement. Fortunately, we have travelled in sentiment as well as in time far beyond the case of the "Deerhound," an English yacht which rescued the captain and some of the crew of the "Alabama" from drowning, when the famous Confederate cruiser sank beneath the fire of the "Kearsarge," off Cherbourg, on June 19th, 1864. On this occasion the rescued men were landed at Southampton and there set free, while the United States complained diplomatically¹ that it was "direct hostility for a stranger to intervene and rescue men who had been cast into the ocean in battle." We interpret the obligations of neutrality and humanity more strictly than our fathers, but we need an International agreement to give symmetry and stability to our views.

We will now go on to consider the new and strange point which has arisen out of the connection between

NEWSPAPER CORRESPONDENTS AND WIRELESS TELEGRAPHY.

The two have been brought together for the first time during the present war, and the honour of the innovation belongs to the *Times*. It has fitted up the steamer "Haimun" with De Forest's wireless telegraphy apparatus, and placed on board a representative of its own, whose messages are sent in cipher to Wei-hai-Wei, and telegraphed from thence to London over a neutral British cable. There seems no Machiavellian subtlety here, especially as the steamer is liable to search by the armed vessels of either belligerent, and has in fact been visited several times by Japanese war-ships, and once by the Russian cruiser "Bayan." But something connected with the proceedings must have got on the nerves of Admiral Alexeieff, for in April he notified that if he caught "off Kwang-tung, or within the zone of operations of the Russian Fleet" correspondents "making use of improved apparatus not yet provided for by existing conventions," he should treat them as spies, and confiscate their vessels. When we remember that the punishment of a spy is death, and probably death by hanging, we realise how serious is the threat of the Tsar's Viceroy in the Far East. The fortune of war has left him little chance of carrying his purpose into effect; but nevertheless it

¹ Parliamentary Papers, *North America*, No. 2 (1873), pp. 199, 200.

is due to his exalted position, and the greatness of his country, to examine his statement carefully in the light of law and reason. Fortunately, we can appeal to an authority which Russia is bound to respect.

Article XXIX. of the Hague Convention on the Laws and Customs of War on Land declares that "An individual can only be considered as a spy if, acting clandestinely, or on false pretences, he obtains, or seeks to obtain, information in the zone of operations of a belligerent with the intention of communicating it to the hostile party."¹ Now a newspaper correspondent goes about his business openly, does not pretend to be other than he is, and, though he seeks information, his object is to communicate it to all the world, and not to the hostile party only. The particular correspondent against whom the Russian threat is aimed is the representative of the *Times* on board the "Haimun," and in his case there is even less secrecy than usual, for it is much more difficult to disguise or hide a steamer than a man. Both belligerents in the present war have signed the Hague Convention, and therefore both are bound by its rules. These make a man a spy if he obtains information by secret means, and obtains it for the enemy. The methods used in forwarding it when obtained are not once mentioned, and cannot be material to the issue. And yet it is on these, and these only, that Admiral Alexeieff's denunciation turns. It may, perhaps, be argued that the Hague rules refer to warfare on land, whereas the Russian order refers to warfare at sea. But there cannot be one definition of a spy for military purposes and quite another for naval purposes. In the matter of espionage, the accepted principles are of universal application, and it is impossible to bring the correspondent of the *Times* within them. The threat of Russia bears a striking resemblance to the contention of Prince Bismarck in 1870 that Frenchmen who attempted to carry despatches in balloons from beleaguered cities were spies. Four years afterwards the Brussels Conference on the Laws of War decided that they were not,² and the representatives of Germany acquiesced in the decision. The XXIXth Article of the Hague Code repeats it, and it is not likely to be challenged in any quarter. A similar ending to the Russian attempt to penalise wireless telegraphy may be confidently expected.

But though the mere use of an apparatus which dispenses with wires and messengers does not constitute espionage, I am inclined to think a case may be made out for some restraint upon the new departure in journalism which the *Times* has initiated. Yet if there be such a case, it cannot be based upon the ground alleged by Admiral Alexeieff. The use of improved means of communication does but accelerate the transmission of news. If there be harm in this, why not penalise the electric telegraph, or even the mail train and the mail boat? In fact, the Russian reason is as weak as the Russian threat is outrageous. But the roving pressman navigating the ocean at will in a private vessel under his own direction, is free from the control exercised over correspondents attached to a belligerent army or a belligerent fleet. Their messages are subject to censorship, and they themselves have to submit to conditions laid down by the State whose forces they accompany. Presumably, therefore, sufficient pre-

¹ Parliamentary Papers, *Miscellaneous*, No. 1 (1899), p. 331.

² Parliamentary Papers, *Miscellaneous*, No. 1 (1875), p. 321.

cautions are taken to prevent any harm arising to the national cause through premature or indiscreet revelations. But there can be no such security where the collectors and senders of information are subject to no control beyond that of an occasional search of their vessels on the high seas. No one knows better than our chairman how troublesome, and even dangerous, it would be for a fleet to be followed by a cloud of private ships, ever hovering round it to see what it was doing, and able to waft whatever they saw or imagined all over the world with little or no supervision. The recent action of the Japanese authorities in requesting the *Times* correspondent not to go north of a line drawn from Chifu to Chemulpo shows that they are alive to these perils. When a new Hague Conference draws up a code of rules for maritime warfare, it will have to devise regulations for such cases.

Although the present war has lasted but a short time, it has shown that

THE USE OF NEUTRAL WATERS BY BELLIGERENTS

may give rise to difficulties. In my judgment those which have already arisen are but a small portion of those which may arise, I do not say necessarily in the struggle now going on, but in some future conflict at sea. In this paper, however, there is no room for hypothetical cases. A short account of the doings of the fleet under the command of the Russian Admiral Wirenius in the first few weeks of the war will furnish abundant matter for consideration.

When hostilities broke out, the Tsar's squadron from the Mediterranean was on its way to reinforce Russia's naval strength in the Far East. Most of the vessels were at anchor by the island of Jebel-Zukkur, in the south of the Red Sea, and the remainder lay at Jibuti the capital of French Somaliland. In three or four days all assembled at Jibuti, where they remained for about a week. At the end of that time official news of the commencement of hostilities reached the local authorities, and the Russian admiral was told that he must leave. This he did in thirty-six hours, having coaled meanwhile from his colliers in French waters. By this time he had received orders from his Government to return, along with all ships of the Russian Volunteer Fleet which were on their way to the scene of action. Accordingly, he proceeded up the Red Sea, stopping and searching merchant vessels on his way. Three neutral ships laden with coal were detained as prizes, two of them being British and one Norwegian. All carried steam coal of the kind used by men-of-war. Two were undoubtedly destined for Japan, one directly, the other after touching at a neutral port. With regard to the final destination of the third, there might be some doubt, though the circumstances were suspicious. These prizes were brought into the Gulf of Suez, within Egyptian territorial waters. There they were kept about four days, and meanwhile their captors used the anchorage as a base from which to overhaul neutral ships navigating the Gulf. I am pleased to be able to add that the Egyptian Government protested against this use of its waters. Meanwhile, the Tsar telegraphed an order for the release of the colliers, on the ground that they had been captured before coal had been formally declared contraband by the Russian Government. This conciliatory action on his part, and the departure of Admiral Wirenius and his squadron for the Mediterranean and the

Baltic, simplified matters considerably, and prevented further complications.

Severe criticisms have been published in England on the conduct of the French authorities in permitting the Russian Fleet to remain for so long a period in Jibuti, and allowing the ships to fill their bunkers with coal before they departed. Most of them are based upon the assumption that International law forbids belligerent vessels to enjoy the shelter of neutral ports for more than twenty-four hours at a time, and, further, that it limits supplies of coal to the quantity which will enable the recipients to reach the nearest port of their own country. This is an error, but one so general that those who give expression to it have much excuse. All the more reason, therefore, is there for an attempt to set forth the correct view. International Law draws a clear distinction between what neutral States must do in these matters and what they may do. Among the things they must do is to forbid fighting in their ports and waters, or the use of such ports and waters as a base of operations. They must not allow belligerents to ship supplies of arms and ammunition therein, or recruit men, or increase their warlike force. Speaking generally, we may say that a belligerent ship must not leave a neutral port a more efficient fighting machine than she entered it, except in so far as increased efficiency may come from increased seaworthiness or a better supply of provisions. On the other hand, neutrals may impose a time-limit upon the stay of belligerent vessels in their ports and waters, and a limit of quantity upon the supplies of things necessary for subsistence and navigation, such as coals and provisions, which they are still permitted to furnish or not at their own will. Whatever regulations they may make as to these matters are binding upon belligerents as long as they are not unreasonable in themselves, and are enforced impartially on both sides.

If we apply these principles to the case before us, we shall see that France was not bound by International Law to turn out Admiral Wirenius and his ships after they had enjoyed the hospitality of the port of Jibuti for twenty-four hours. Quite apart from the alleged absence of official information of the outbreak of war, there was no obligation upon her to do anything of the kind. But what she did for Russia she is bound to do for Japan. If in future a Japanese squadron desires to stay for some time in a French port, to compel their departure at the end of a day would be a breach of neutrality, unless, indeed, they were using it as a lurking place from whence to sally forth to the attack of Russian vessels. Similar considerations apply to coal. The French Circular of Neutrality, issued on February 18th, 1904, limited permissible supplies and repairs to those necessary for "the subsistence of the crews and the safety of the navigation," and forbade the use of French waters for warlike purposes. These are vague words, and I doubt whether anything done at Jibuti was outside a reasonable construction of them. A full supply of coal was allowed, but there was no returning again and again for shelter and further supplies. In other words, the port was not used as a naval base. Unless and until a Japanese fleet is refused the facilities granted to the Russian squadron, there is little ground to reproach France with a violation of neutrality.

But it will be said that we are stricter. We do not allow, by our Rules issued from the Foreign Office on February 10th, 1904, a longer stay than twenty-four hours to belligerent vessels visiting our ports

and waters, unless they have obtained permission to take innocent supplies or effect repairs, in which case we turn them out as soon as they are ready to depart. Nor do we permit them to take more coal than is necessary to carry them to the nearest port of their own country, "or to some nearer named neutral destination," and no two supplies of coal for the same vessel are to be allowed in British ports at lesser intervals than three months. I rejoice that all this is perfectly true. Great Britain, and the important group of States who have followed her example, have chosen the more excellent way. Their definite rules are very much to be preferred to the vague phrases of the French Circular. But while the law of nations allows the stay of belligerent vessels in neutral ports, and sets no definite limit upon the amount of coal that may be supplied therein, we have no right to accuse a friend and neighbour of unneutral conduct because she does not copy our wholesome restrictions. States are bound by International Law, not by British regulations, however excellent they may be.

The case of coal is peculiar and unsatisfactory. There is great need of a further advance in the rules which deal with it. Before the application of steam to navigation no one gave it a thought in connection with warlike purposes. Belligerent ships were as little likely to ask for it as they are to-day to demand granite or sand. But when, in the middle of the last century, the Navies of the world changed from sailing vessels to steamships, it suddenly became immensely important. Yet the law of nations, based upon the practice of nations, still regarded it as an innocent article which might be supplied without restraint to any belligerent ship whose commander was so curiously constituted as to want it. But in 1862 Great Britain led the way in an attempt to put it on a more satisfactory footing. Taking advantage of the power possessed by neutrals to make reasonable regulations for their own protection, she issued in the midst of the great American Civil War a number of rules which dealt, among other matters, with supplies of coal.¹ They were limited almost exactly as they are in the present war. We have kept to our rules ever since, when neutral in a maritime struggle; and several Powers notably the United States, have adopted them. Meanwhile, coal has become much more important for warlike purposes than it was in 1862. Without it a ship-of-war is a useless log. It is as essential for fighting purposes as ammunition, and much more essential for chasing or escaping. Moreover, the great increase in the size, or speed, or both, of modern vessels causes them to consume it in much greater quantities than before. A belligerent which can obtain full supplies of it in neutral harbours gains thereby an enormous advantage. The neutral may be perfectly willing to grant similar supplies to the other side, but its wants may never be so great, and consequently the assistance given to it may never be so effective. Besides, it is of the essence of neutrality that no aid should be given to the belligerents, and this is by no means the same thing as giving aid to both equally. Is it not time we went further, and prohibited all supplies of coal to belligerent vessels in our ports? Probably some Powers would follow our example, as happened when we strengthened our rules in 1862. Certainly some would not. France, who has not yet come up to our standard of forty years ago, and whose policy with regard to coal in warfare is to place no restrictions upon the trade

¹ *Report of the Neutrality Laws Commissioners*, pp. 77. 78.

in it, could hardly be expected to come into line with us at first. But if she persisted in granting supplies when most other countries refused them, she might lay herself open to awkward remonstrances and demands on the part of a belligerent who had suffered severely in consequence of her liberality. An experience like our own in the matter of the Alabama Claims might convert her to our views. But even if she remained unconverted, we could go on acting as we deem best. We have more to gain than most States by the changes I suggest. Their first result would be to make war-ships dependent upon the coal they obtained in their own ports, or from colliers sent out by their Government. We are better off for coaling stations than any other Power, and we have greater facilities for keeping our fleets supplied by colliers. On the other hand, we have more to lose than most States by the present system, for our sea-borne trade is so enormous and so important that an enemy could do vast damage by means of two or three swift commerce-destroyers, which might for a time obtain coal in neutral ports, though we had closed all their own against them. The Egyptian Neutrality Order of February 12th, 1904, lays down that before the commander of a belligerent ship-of-war is allowed to obtain coal in any port of Egypt he must obtain an authorisation from the authorities of the port specifying the amount which he may take, and such authorisation is to be granted only after the receipt from him of a written statement, setting forth his destination, and stating the amount of coal he has in his bunkers. Probably this is as far as it is possible to go at present. If we attempt to enforce absolute prohibition, we run upon the difficulty I have described a little further on when dealing with coal as contraband.¹

The use to which Admiral Wirenius put neutral waters in the Red Sea need not detain us long. It is quite clear that he exceeded his rights, and violated the neutrality of Egypt in a gross and open manner. It is an accepted rule that no proximate acts of war must take place in neutral waters. They may not, as we have seen, be used as a base of operations by either party. The common law of nations forbids these things, and, further, declares that neutrals may make all reasonable rules to protect their sovereignty over their own territorial waters from being flouted by over-zealous or unscrupulous belligerents. Moreover, they are at liberty to refuse the prizes of the contending parties admission to their ports. This Egypt did in her Neutrality Order of February 12th, and she also followed the example of Great Britain in forbidding the use of her waters "as a station or place of resort for any warlike purpose." It was the duty of the Russian admiral to respect the rules of International Law, especially when reinforced by the express wishes of the neutral Government. Instead of this he anchored his prizes in Egyptian waters about twenty miles below the port of Suez, and, keeping his fleet in the same situation, sent out vessels to waylay passing merchantmen. It is to be hoped that the timely protest that was lodged against these proceedings will prevent a recurrence of them during the war. Incidentally they raise another question, which is partly a matter of law and partly a matter of policy. It may be argued that the narrow opening of the Gulf of Suez and the smallness of the navigable channel throughout its whole extent makes it territorial water. But

¹ Further consideration has convinced me that this difficulty need not exist.

seeing that it is twelve miles wide at the entrance and has generally been accounted a part of the high seas, too much stress should not be laid upon the contention that it is already an Egyptian bay. But, if it is not, should it not be made so by International agreement, in order to protect the neutrality of the Suez Canal? By the Convention of 1888 the entrances to the Canal are not to be blockaded, and no acts of hostility are to be committed in the channel or in the sea to a distance of three marine miles from either end of it.¹ These rules might be observed to the letter, while a squadron stationed in the Gulf of Suez, where the navigable channel does not exceed eight miles in width, practically kept the entire passage from sea to sea under belligerent control.

No clear case has yet arisen of an attempt on the part of Russia or Japan to obtain ships during the war from neutrals and use them for hostile purposes.² The newspapers are full of stories of purchase, especially by the former Power, whose wants are undoubtedly great. I do not profess to know what is going on behind the scenes. It is likely enough that shrewd speculators are buying up the best war-ships they can find, in the hope of disposing of them at an enormous profit to one or other of the combatants. But I trust they are reckoning without their hosts. It would be a most flagrant breach of neutrality if any Power not engaged in the war permitted the original departure from its ports of such vessels on their way to either belligerent. The legal points connected with such a proceeding are many and interesting, but they cannot be discussed in a paper which deals with questions which have actually arisen. Some of the tales we read are obviously ridiculous. No one can imagine the Russian Admiralty foolish enough to buy worn out German torpedo-boats, and liners rejected for lack of speed, in order to reinforce its Baltic Squadron, and make it strong enough to proceed to the Far East. It requires no very vivid imagination to picture the fate of such a collection of lame ducks and floating scrap-heaps when it encountered the victorious and war-hardened Navy of Japan.

We will now attempt to deal with the great subject of

CONTRABAND OF WAR,

not fully, but as far as the time at our disposal will allow. We must, I fear, be content first to examine the difference in the way in which the two belligerents approach it, and then to deal with the special cases of coal and provisions.

According to the Prize Law of Japan, as given in Appendix vii. of Professor Takahashi's book, *International Law during the Chino-Japanese War*, contraband goods are divided into two classes. The principle of division is maintained in the notification published by the Japanese Government on February 10th, 1904, though the goods placed in each class differ somewhat from the list published ten years ago, and the expression of the distinction between the two classes is also varied. The first class are contraband when "passing through or destined for the enemy's Army, Navy or territory," the second only when "destined for the enemy's Army or Navy, or in

¹ Parliamentary Papers, *Egypt*, No. 2 (1889), p. 43.

² This must be taken in connection with the date of the lecture, May 25th, 1904.

such cases where, being goods arriving at the enemy's territory, there is reason to believe they are intended for the use of the enemy's Army or Navy." That is to say, a distinction is drawn between goods in their own nature so fitted for warlike purposes that it is morally certain they are meant for warlike use, and goods the use of which is uncertain, and may vary according to circumstances. The first are to be prevented from reaching the enemy at all, the second only where it is clear they are destined for the use of his armed forces. In other words, the Japanese have adopted the British doctrine of occasional or conditional contraband, though they have not given it the wide scope to be found in our Admiralty Manual and the Prize Court Decisions on which that document is based. Their list of contraband goods of the first class—what we should call goods absolutely contraband—is short. It contains little beyond arms and ammunition, the materials and machinery for making them, explosives, and whatever is required for building and fitting out ships of war. A clause at the end adds all other goods which "are intended solely for use in war"; but though these words are general, no exception can be taken to their purport. Goods of the second class—our conditional contraband—are set forth with similar brevity. They are enumerated as "provisions, drinks, horses, harness, fodder, vehicles, coal, timber, coins, gold and silver bullion, and materials for the construction of telegraphs, telephones, and railways." There is nothing here that can be deemed excessive. From the point of view of neutrals, the lists are satisfactory; and our experience of the war of ten years ago gives no ground for supposing that Japan will administer her rules in an oppressive manner.

It is impossible to speak so confidently with regard to Russia. She makes no distinction between goods absolutely contraband and goods conditionally contraband. With her all goods that are contraband at all belong to the former category. Her Government stated this unreservedly on the 28th of February of the present year. Such a declaration might be in no way offensive to neutrals, if the list of contraband goods were short, and contained only articles of use primarily and ordinarily for warlike purposes. But Russia's list is long, and contains goods which are technically classed as articles *ancipitis usus*, that is to say, useful indifferently for warlike and peaceful purposes. In order to find out exactly what the Government of St. Petersburg considers to be contraband of war we have to piece together Appendix ii. to Section 14 of the *Instructions approved by the Admiralty Council, September 20th, 1900*, and Article vi. of the *Rules which the Imperial Government will enforce during the war with Japan*, which are dated February 28th, 1904. Roughly speaking, the list of 1900, which we are told was drawn up as long ago as 1877, is reproduced in other words and with some alterations of detail, in the list of 1904; but important additions are made at the end of it. Among these additions we find naval machinery, coal, provisions, and horses; and to all are applied the rules which we apply to our "goods absolutely contraband." They will be condemned if found in a neutral ship voyaging to an enemy destination, no matter whether such destination be a commercial or a naval port; no matter whether the goods are destined for civilian or military use. We English discriminate. When goods capable in their own nature of a double use are found under a neutral flag on their way to an enemy destination, they are confiscated if the port to which they are

bound is one where war-fleets are fitted out, or equipments for armies received, and released if it is devoted to peaceful commerce and the supply of the civilian population. And, further, even when we seize and confiscate, we pay the owners a fair price for the conditional contraband so taken. It is only when the goods are absolutely contraband, that is, useful chiefly and almost exclusively for warlike purposes, that we appropriate without compensation. Yet our practice has been deemed harsh and indefensible. Continental jurists and statesmen have condemned it in no measured terms. The *Institut de Droit International* discussed the question at its meeting at Venice in 1896, and declared against our doctrine of conditional contraband; but added "Nevertheless, the belligerent has at his option, and on condition of paying an equitable indemnity, a right of sequestration or pre-emption, as to articles which, on their way to a port of the enemy, may serve equally for use in war or in peace."¹ This, in effect, not only concedes our view, but even goes dangerously far beyond it. We do not seize at all unless we deem the goods destined for warlike use. The *Institut* would allow seizure and pre-emption whenever the articles *incipitibus usus* were on their way to a port of the enemy.

Russia has, however, contrived in her recent regulations to unite all severities, and throw off all restraints. Our Doctrine of Conditional Contraband vanishes, but only in order that the class of goods it covered may be placed in the list of those absolutely contraband. The *Institut's* recommendation of sequestration or pre-emption is ignored, and all goods in the list, harmful and harmless alike, are to be subject to seizure without compensation.

It may be argued that Russia will in all probability have little opportunity of putting her rules into action. No doubt appearances favour this view; but as the late Lord Beaconsfield once said: "War changes like the moon"; and it is well to be prepared for any eventuality. Belligerents have a right to make their own lists of contraband; but neutrals have a right to object to them or any part of them. As a humble citizen of a great nation interested more than any other in the freedom of sea-borne commerce, I venture to suggest that if our Government has not already taken action, it should at once proceed to do so. The treatment of all goods deemed contraband as equally noxious, is a blow at neutral trade which we did not venture to strike, even in the height of our conflict with Napoleon, when we certainly did many unjustifiable things, and are regarded by most Continental authorities as having played the part of tyrant of the seas. As to the inclusion of particular articles in the list of contraband goods, there is not time to refer to more than the two specific cases of coal and provisions.

We will take, first,

COAL.

Russia's record with regard to it is remarkable for inconsistency. The West African Conference of 1884-1885 decreed freedom of commerce and navigation for the Congo River, even when the riparian Powers were at war, excepting, however, contraband articles from the operation of this salutary rule. In December, 1884, the Russian representative at the Conference astonished his colleagues

¹ *Annuaire de l'Institut de Droit international*, 1896, p. 231.

by declaring that his Imperial Master would not regard coal as one of the articles so excepted. Russia thus ranged herself with France in maintaining the extreme view that coal could under no circumstances be regarded as contraband of war. Great Britain and the United States hold that it is contraband when destined for naval or military use, but innocent when destined for commerce, manufacture, or domestic consumption. Japan has adopted this doctrine by placing coal in the second class of her contraband goods, which means that she will subject it to capture only when it is caught on the way to the war-vessels of the enemy, or a hostile port of naval or military equipment. Germany holds either this position, or the still more marked one that coal on the way to the enemy is contraband, irrespective of the nature of the port where it is to be delivered. Till recently, then, we had France and Russia in agreement in holding coal to be in no case contraband, and Great Britain, at the head of a group of important maritime Powers, maintaining that it belonged to the class of conditional contraband. But on February 28th, 1904, twenty days after the outbreak of the present war, Russia quietly boxed the compass, and proceeded to substitute one extreme view for the other. The Eighth Article of her *Rules which the Imperial Government will enforce during the war with Japan* included in her list of contraband: "every kind of fuel, such as coal, naphtha, alcohol, and other similar materials."

Remember, please, that all the articles enumerated in Russia's rules are "unconditionally contraband"; and you will understand that a cargo of soft coal proceeding from Newcastle to Yokohama for the use of the civilian population of Tokio is subject to capture and confiscation, as much as a cargo of smokeless coal proceeding from Cardiff to Nagasaki for the use of Admiral Togo's fleet. Have we any reason to object? The answer to this question seems to me to depend upon the view we are disposed to take of the importance of coal in naval warfare, and our estimate of the ease with which a cargo landed at a commercial port can be conveyed by land carriage to a port of naval equipment. Lord Lansdowne voiced the usual English doctrine when he wrote in February to a Cardiff firm: "Coal is an article *incipit* *usus*, not *per se* contraband of war; but if destined for warlike as opposed to industrial use it may become contraband." But if we look upon coal as so absolutely essential to the equipment for war of a modern Navy, that it ought to be placed on the same footing as ammunition, and supplies of it in neutral harbours prohibited altogether, we can hardly retain the position thus set forth.¹ If belligerents are no longer to be allowed to buy coal in our ports, can we still claim a right to carry it to their ports unmolested, as long as they are not ports where war-ships are fitted out? I confess I cannot see how the two positions are to be reconciled. We must choose, it seems to me, between total prohibition to belligerents, coupled with total prohibition by belligerents on the one hand, and on the other, the present limited freedom of supply to belligerents, coupled with a limited freedom to carry the article to their ports. I

¹ I now see no reason to believe that there would be any real inconsistency in prohibiting supplies of coal to belligerent vessels in our ports and ranking coal among articles conditionally contraband. The reasons which have led me to this conclusion are set forth in my recent book, *War and Neutrality in the Far East*.

can see strong arguments on either side, and doubtless there are others which I do not see. Careful discussion is required before we come to a decision. I trust the statement of the case I have ventured to make this afternoon will give rise to a valuable interchange of views. It may be that a way out of the difficulty can be found by making absolutely contraband the harder and non-smokeless kinds of coal, which are those generally used for naval purposes, while the softer sorts remain on our list of goods conditionally contraband. Meanwhile it may be advisable to call attention to the fact that up to the present little practical application has been made by Russia of her severe rule. The British colliers "Frankby" and "Ettrickdale," which, with the Norwegian "Mathilda," were captured in the Red Sea, were all released by special order of the Tsar, on the ground that they had been seized before coal had been formally declared contraband by the Russian Government. It is to be hoped that this attitude of deference to neutral susceptibilities will be continued, though the declaration, which comes as I write, that cotton will in future be regarded as contraband points in the opposite direction.

We now come to the question of

PROVISIONS.

A very short historical review will throw a good deal of light on the matter. At the outbreak of the war between Great Britain and France in 1793, both parties first adopted, and then under neutral pressure abandoned, the practice of capturing as contraband neutral cargoes of provisions on their way to open commercial ports of the enemy. Out of this attempt and its failure grew the doctrine that food was not contraband unless it was destined for a besieged place or an armed force of the enemy. This view met with general acceptance until 1885, when France, hitherto one of its most conspicuous adherents, gave notice to neutrals that in the course of her then existing hostile operations against China she would confiscate as contraband rice conveyed in neutral vessels to any Chinese port north of Canton. Our Government immediately demurred, and restated the old view. Hostilities terminated before a case of seizure arose, and therefore the controversy never came to a decision. But two points should be noticed with regard to it. Prince Bismarck stated, in reply to a memorial of complaint from a number of Hamburg merchants, that it belonged to belligerent Powers to say what they intended to regard as contraband. And, again, the action of France was defended at the time, and has been defended since, on the ground that the rice in question was tribute paid to the Chinese Government, and used by them in lieu of money for the pay of their soldiers. This argument has the merit of ingenuity; but it is capable of such enormous extension that few articles would be safe from confiscation under it if they could be looked upon as State property. All goods can be expressed in terms of money, and since State treasure is contraband, the goods which represent it could be regarded as contraband also. A list of contraband goods compiled on this principle might easily grow so great as to cripple neutral trade in articles of the most innocent character; but whether the argument be good or bad, the fact that it has been put forward, and the further fact that Prince Bismarck pointedly refrained from

scouting the French claim, should warn us that we must look carefully to our own position, since it is a matter of the utmost importance for us to keep our imports of food free from molestation at all times.

The action of Russia in the present war emphasises the warning. Hitherto she has been on the side of the received rule. Food-stuffs were absent from her list of contraband of 1900. But the additions of February 28th, 1904, contain rice and provisions. We can only hope that our Government have followed the example of their predecessors in 1885, and entered a strong protest. In the action of Japan there is nothing of which we can complain. With her food is contraband only when destined for the use of the enemy's armed force, and, I presume her Courts would add, for a besieged place. When American steamers laden with canned meats and other provisions put into Japanese ports on their way to Port Arthur and Vladivostock at the beginning of the war, their cargoes were, of course, seized. There was no breach of International Law in such acts. The only comment it is possible to make upon them is that on these occasions some of our American cousins showed a strange lack of their usual sagacity in matters of commerce.

Our own policy is perfectly clear. Unless we alter our habits fundamentally, or diminish our numbers by more than half, we cannot live upon the produce of our own soil. We might, indeed, adopt the suggestion of Professor W. J. Malden, and plant four million acres with potatoes; but, like other counsels of perfection, this stands a better chance of admiration than adoption. Practically, we are dependent upon imports from abroad for about four-fifths of the wheat and flour we consume. Of this enormous quantity no very large proportion comes from our colonies and dependencies. In the eight years ending with 1903 it varied from 8 to 24 per cent. In these facts we find at once our call to action, and our hope of success in action. It is a matter of life and death for us to prevent any change in International Law which shall make the food of the civilian population undoubtedly contraband, and if arguments and protests will not do it force must. Should the use of force be necessary, we are not likely to stand alone. Our trade in food is so lucrative to the great wheat-producing and meat-producing countries that they will strain every nerve rather than lose it. The United States is with us heart and soul in the doctrine that food-stuffs are not contraband unless destined for war-like use, and they are prepared to enforce it at all risks. If in time of war with France or Germany, American corn-cargoes bound for Liverpool were captured on the high seas, the Stars and Stripes would soon wave side by side with the Union Jack over the fleets which swept the commerce-destroyers from the ocean. Other countries know this as well as we, and in that knowledge, and the efficiency of our Navy, lie our chief securities.

Captain Stockton, U.S.N. (Naval Attaché to the U.S. Embassy):—As this subject is one of an International character, I feel that perhaps a treatment of it from a different point of view may give a freshness to the discussion, and that if one of another nationality, which has historical experience of its own, assists in the thrashing out the subject (which, being International, is one that pertains to us all), it would be a matter of common advantage to the whole of us. Before proceeding, however, I would like to echo the remarks of the lecturer

in regard to the Chairman who was to have occupied the Chair. My acquaintance with Rear-Admiral May, though limited, was one of great interest, and to my brother officers, his writings, though meagre, have been eagerly read and much cherished. He is a loss, not only to your own Service, but a loss in the field of naval literature and naval study. With regard to the paper which has been read, the first question to which I wish to refer is one in which we, as naval officers, have a personal interest, namely, the question of the rescue of belligerents by neutrals at sea. That question was discussed at the Hague Conference, and the representatives of the United States went so far as to withhold their assent to the Articles as they were passed. I think the balance of naval opinion now with us is, that the question is left in an unsatisfactory condition by the omission of the Xth Article, and the retention of the VIth Article, and by the want of a substitution of something that provides a definite dealing with the subject. I will read a paragraph which was practically adopted by our country at one time as an expression of their opinion, and from my correspondence with Captain Mahan at the time, before the paragraph was formulated, I believe that he agreed with it, and that it reflects his views, though not expressed to the same extent as he expressed them at the Hague Conference. The paragraph, which carries this expression of views, is as follows: it refers more particularly to merchant-vessels, yachts, or other neutral vessels frequenting the vicinity of a naval action, and the view came from the fact that in naval warfare it is not only the intention to put *hors de combat* the *matériel*, but also the *personnel* of the enemy, and when that has been done, should, in the name of humanity, a leader, whose value alone may represent a squadron or many vessels, be snatched from the successful combatant, it certainly seems that an unneutral service at least has been performed, and that the victor is not left with the spoils—the assets of a successful battle—which are due to him from his victory. The idea is covered in these words:—"Merchant-vessels, yachts or neutral vessels that happen to be in the vicinity of active maritime hostilities, may gather up the wounded, sick, or shipwrecked of the belligerents. Such vessels after this service has been performed shall report to the belligerent commander controlling the waters thereabouts, for further directions, and while accompanying a belligerent will be in all cases under his orders, and if a neutral, be designated by the national flag of that belligerent carried at the foremast head, with the red cross flag flying immediately under it. These vessels are subject to capture for any violation of neutrality that they may commit. Any attempt to carry off such wounded, sick, and shipwrecked without permission, is a violation of neutrality. They should also be subject to all of the Articles of the Geneva Conference and its expansion at the Hague Conference." Doubtless, at the Hague Conference, the question of the violation of neutrality was intended to be covered by Article VI., which is as follows:—"Neutral merchantmen, yachts, or vessels, having, or taking on board, sick, wounded, or shipwrecked of the belligerents, cannot be captured for so doing, but they are liable to capture for any violation of neutrality they may have committed." That leaves the question open of what a violation of neutrality may be. The person in command of the sea would be the successful man, and to him, a conqueror, would be left the question of what should be done with those placed *hors de combat* in the water. Humanity steps in, and sanctions the rescue from drowning of anybody in that case, but humanity is neutral, and humanity does not dictate that a neutral vessel should

carry off a person who has been placed *hors de combat*. I do not think the world would approve of any interference with a neutral vessel that was engaged in rescue work, but when that rescue is made, the defeated combatants belong to the successful man. I join with the lecturer in his regret that the recommendation of the Hague Conference for a revision of the Geneva Convention was not carried out during last summer. I think it is an open secret that it was not carried out on account of the opposition of some of the Continental Powers. The United States appointed its delegates. Great Britain was heartily in sympathy with the endeavour to revise the Convention, and expand it in the interests of humanity, and the good treatment of those captured, or to anything that would lead to the amelioration of warfare. But some of the Continental nations expressed to Switzerland (which was the convening Power) that they did not care to be represented, and would not take part in the Conference, and, of course, the value of the Conference depended upon its International character. I am in hopes that, after the war is over, and the feelings aroused thereby have subsided, that this revision of the Geneva Convention by an International Conference will take place. There is certainly a status growing of what may be called sympathetic neutrality. The two words may seem in antagonism, but is an existing state. Neutrality should, however, be colourless. In our country we are very sensitive about sympathetic neutrality on the part of neutrals, and the thing has always gone deeply into our hearts when we thought that any neutrality was other than of a colourless nature. It is a feeling that lasts with us, and lasts, I think, with all nations, and it is a feeling which is shown not only at the time, but years and years after. It makes for prolonged irritation and for war. There is, I agree, a necessity for something more being done, not only upon this question, to advance both the rights of neutrals, and the obligations of neutrals, and I look forward hopefully to Great Britain and the United States reviving an agreement which they made in the Treaty of Washington, in which they stated that they would carry out the doctrines of neutrality therein enunciated by the two nations, and would endeavour to secure the assent of other nations. It may be the time has passed for asserting certain parts of those doctrines contained therein, but certainly an extension and expansion of the rights and the obligations of neutrals should be urged, and by no better Powers than those of Great Britain and the United States. With regard to wireless telegraphs, the attitude of considering the users of it for news purposes as spies seems absurd. In the first place, Russia is a party to the Hague Convention, and the Hague Convention not only defines what is a spy, but it defines the status of correspondents. Article XIII. upon land warfare says:— "Individuals who follow an Army without directly belonging to it, such as newspaper correspondents and reporters, sutlers, contractors, who fall into the enemy's hands, and whom the latter think fit to detain, have a right to be treated as prisoners of war, provided they can produce a certificate from the military authority of the army they were accompanying." At the very most, by the usage, and by the obligation of International Law, anybody who is conducting a ship fitted with wireless apparatus, or who is acting as a wireless correspondent, can be treated as a prisoner of war, and only in case he falls into the hands of the enemy. It should be noted that, at the Wireless Telegraph Conference, which took place in Paris a few months since, Russia, a signatory, at that time did not raise the question that has been raised by one of her subordinate officials in regard to the position of wireless correspondents.

It may be true, however, that the matter was not considered as a probable one. I find myself differing from the lecturer upon the subject of coal as contraband. The use of coal has extended for what may be called civil purposes as much as it has for warlike purposes, because it is getting to be rapidly the sources of light, heat, and power in the world, as well as something which is used for other economical and domestic purposes; in fact, I think it may be considered that coal is a concomitant with food; because, no matter what an extreme partisan of a cold lunch may say, as a matter of fact, civilised nations prefer their food cooked, and coal is the fuel of the day. For that reason, I think that coal and provisions can be put in the same status—that coal and provisions should only be considered as conditionally contraband. When coal is going to a naval arsenal, or a fleet, or vessels of war, or to a naval coaling station, it is undoubtedly contraband of war, and the same applies to provisions under the same circumstances; but when coal is going to be used for mechanical purposes, or for the general purposes of civil use, it should be considered, I think, only on the same basis as provisions, as it is so closely connected with our daily life. As for smokeless coal, that is a question that comes rather home to us. We have, particularly upon the Atlantic sea-board of the United States, anthracite coal, which is used because it is smokeless. It is a luxury to that extent. We have plenty of bituminous coal, but that is smoky, and in New York City laws have been passed forbidding the use of bituminous coal on account of the fact that its smoke is a nuisance. There is no question in my mind that there should be a prolongation of the neutral zones, as far as the approaches to the Suez Canal are concerned, and I think that is a matter which the nations should take in hand. I know that when the boundary lines were settled between the Argentine Republic and Chili, it happened that the Straits of Magellan became entirely enclosed in Chilian territory, and the United States stated that they would not consider that the Straits of Magellan should be considered solely as Chilian waters, or as a channel only to be used by Chili, or to be closed by Chili in time of war: being one of the world's great straits, it should not be so narrowed down. So with that narrow part of the Red Sea which is linked with the Suez Canal. There are certain things that rise above even narrow territoriality, and the world's use of great straits connecting oceans is among such matters. There are one or two other questions I should like to refer to, one of consequence to us all, namely, interference with mails. We had a long Civil War in the United States, in which that question came up in various phases, and finally the United States gave directions to its naval officers that, even in the case of capture of a mail steamer, the mail bags were to be forwarded unopened to their destination, while in the Spanish-American war the following instructions were issued by the Navy Department of the United States to the Naval Service:—"A neutral vessel carrying hostile despatches, when sailing as a despatch vessel practically in the service of the enemy, is liable to seizure, but not when she is a mail packet, and carries them in the regular customary manner, either as a part of the mail in her mail bags or separately, as a matter of accommodation, and without special arrangement or remuneration. The voyages of mail steamers are not to be interfered with, except on the clearest grounds of suspicion of a violation of law in respect of contraband or blockade." Probably our ablest living publicist and International lawyer, Professor J. B. Moore, goes even further in a suggestion that required that all mail steamers, whose schedule had been announced and

carried out, and which were habitual carriers of mails, should have, to a certain extent, some of the immunities of a man-of-war. That, of course, is an extension which probably the world is not yet ready for. With regard to the question of cotton, it has been said that Russia, in announcing that cotton is contraband of war, is following an example which came from us during our civil war. We did announce cotton as contraband of war, but the circumstances were different. Cotton was a universal production in the South; it was its current coin, and with cotton it bought its munitions of war, and everything that enabled it to carry on war. It was very much as if it were money, and money is contraband of war under certain circumstances. Mr. Bayard, when Secretary of State, wrote to Señor Murnaga in 1886 that "Cotton was contraband of war during the late Civil War, when it was the basis upon which the belligerent operations of the Confederacy rested. . . . Cotton, in fact, was to the Confederacy as much munitions of war as powder and ball, for it furnished the chief means of obtaining these indispensables of warfare." I must apologise for having taken up your time to the extent I have and also thank you for your attention.

The Baron SUYEMATSU:—It is not my intention to make any lengthened remarks, but I wish to ask the lecturer one or two questions. With regard to the sale of vessels, the lecturer looked upon the sale of war-vessels as a violation of International Law, but it seems to be held that the sale of merchant-vessels under ordinary circumstances is not a violation of International Law, although under some circumstances it may be considered a violation of International Law. For instance, supposing X. and Y. are fighting against one another, and a neutral Power, fully knowing that the vessels it is selling are going to be used as transports or cruisers for the Navy of that country; if that country still allows the merchants to sell those vessels in great numbers, and the fact is even known to the Government of the country, would not that, even under those circumstances, be considered a violation of International Law? Another point I wish to ask the lecturer is with regard to supplying coals to the fleets of belligerents. On that point some remarks were made by the last speaker, but under some circumstances I think precautions ought to be taken. In this way. Supposing X. and Y. are fighting against one another, and X. sends her fleet to the seat of war; supposing on the way coal is supplied to that fleet by M., it will amount to materially aiding that Power, and under those circumstances is it not a violation of International Law to supply the coals? Would not it be necessary to adopt some kind of precautions, and prevent such things occurring again? I do not say they are occurring actually; I am only supposing a case. I wish to thank the lecturer for his learned and interesting paper, and kindly ask him to give us his opinion on those two points.

The Rev. J. T. LAWRENCE, in reply, said:—Perhaps I had better deal with the gentleman who spoke last, and endeavour to answer the questions put to me by him. The citizen of our ally who addressed us so admirably put me a poser to begin with. It is very difficult indeed, I think, to say the departure, when under sale, from neutral waters of a vessel which is not a ship of war could be held to amount to a violation of neutrality. To my mind, it is perfectly clear that International Law goes further than prohibiting the sale of ships of war by the Government of a neutral to the Government of a belligerent, but how much further is a question

on which, as a judge would say, I would like to reserve my judgment. All I can do is to quote a passage from the British Foreign Enlistment Act of 1870, which though, of course, not International Law because it is a British Foreign Enlistment Act, may nevertheless be said, at least as to most of its clauses, to voice fairly well the best views of International Law on this matter that are obtainable at the present time. That Act makes it an offence "to build, agree to build, or cause to be built, any ship with intent or knowledge or having reasonable cause to believe that she will be employed in the military or naval service of any foreign State at war with any friendly State." Anything employed in the military or naval service, not necessarily in the fighting line—employed as a transport or collier—would be covered by those words; and our Secretary of State, if he sees reasonable cause for believing that a ship is being built contrary to this Act, may issue a warrant to seize and detain her until the case has been decided in a Court of Law as to whether she ought to be prevented from leaving or not. That gives you British practice, and I think it shows the tendencies and the best views in this matter in modern times. Then with regard to the other point, which I hope I caught correctly, namely, the question of selling coals to a belligerent. If I am right, the case put was the case of a neutral who sent colliers with coals to a belligerent fleet.

The Baron SUYEMATSU :—Take a country X., and another country Y. Suppose X. sends her fleet to that country, Y., and on the route a neutral supplies coals to the fleet of X. in order to enable him to get to the seat of war : Is that right?

The Rev. J. T. LAWRENCE :—That surely would be a breach of International Law, as it stands at the moment. There is no question of screwing up the law and making it stricter. Everybody, I think, will agree, except, perhaps, France—which says that coal under no circumstances is contraband of war—that coal supplied directly to a belligerent fleet by a neutral merchantman is contraband, and that the other belligerent has every right to capture and confiscate it. The case put by Captain Stockton was the objection that he feels—and I, to a large extent, feel also—of making coal contraband under any circumstances. What he said was that if coal is necessary for war it is also necessary for peaceful purposes, and we must be content with our present discrimination between coal destined for military and naval purposes and coal destined for the purposes of civil life. I am not disposed for a moment to quarrel with that view. Only I want to put this point. Are you or are you not in favour of making the rules as to the supply of belligerent ships of war in neutral waters stricter than Great Britain and the United States have made them already? If you are, is it possible to do that, and, at the same time, say that coal destined for civil purposes is not contraband of war in the case of ordinary trade? I think we might make at least one alteration, and I would like to put it to so great an authority as the United States Naval Attaché. At present we say a vessel of war must not take any more coal than is sufficient to carry her to the nearest port of her own country, or some nearer named neutral destination, and we are beginning to dictate the destination. Could not we generally go as far as Egypt has gone, and require the captain of the war-vessel that receives coal to sign a declaration that he is going to that particular port, that he has so much coal in his bunkers, and that he wants

so much more to get to that port. Then if, having got the coal, he violates his word of honour, and uses it for cruising purposes, instead of going to the port, could not the neutral say in such a case: "That particular war-vessel shall not have another supply in my ports while the war lasts"? I think we might get as far as that in the way of screwing up, and that the public opinion of the civilised world would back us up in it at the present time. Then we have a suggestion put forward with regard to the rescue of neutrals, and Captain Stockton repeats the views, and enforces them with great ability, of Captain Mahan, and still, I am sorry to say, that with, I suppose, John Bullish presumption, I disagree with those two great authorities. We are told that humanity is neutral. I quite agree with that. We are told that the person belongs to the successful commander; I quite disagree with that, if the neutral vessel has rescued that shipwrecked person from drowning. I maintain that it is inconsistent with the principle of neutrality to hand him over to either side. He is outside, or ought to be outside, the operations of war for the rest of the time. Undoubtedly he should not be surrendered to his own people in order that he may enter the fighting line again. He should be put out of it, and out of it he should remain. At the same time, I do not think he should be surrendered to the adversary to be kept as a prisoner of war for the rest of the period. I think this cause is similar to the case of driving a defeated Army over into neutral land. When, at the end of the great war between France and Germany, the poor, wretched, defeated, half-naked troops of Bourbaki were driven, amidst snow and ice, and almost starving, across the Swiss frontiers, they were kept there, and were fed and clothed until the end of the war. They were not allowed to go back and reinforce the beaten legions of France. Neither, on the other hand, were they allowed to go into German prisons. They were just kept in Switzerland, outside warlike operations, till the war was over. Then they returned to their own country, with a little bill for the amount of the expenses which the country had been put to. That seems to me to be a method of dealing with such cases, and it is consistent at once with humanity and neutrality. I quite see that it would never do to let the commander of a beaten ship, because he has been rescued by neutrals, return to his own people, and be set to command a new fleet by and by. That might alter the whole fortune of war. I would solve the difficulty, not by giving him to whatever side controlled the scene of operations when the fight was over, but by interning him until the end of the war. As for coal, I do not think we need repeat what has been already said. With regard to cotton, Captain Stockton raised a very difficult point when he alluded to the contention of the North, in the American Civil War, that cotton was contraband of war. I will not detain you by arguing it now, but I think I must say, in passing, that I cannot agree with him on that point. If it be true, as was stated in the House of Commons not very long ago, that all Russia means by declaring cotton to be contraband, is that she will confiscate the raw material, if it is likely to be made into gun-cotton, I doubt whether there is much reason for objection. If it means, however, that she is going to confiscate the raw material without any regard to the ultimate purpose to which it will be applied, then I think we have as much reason to object to that as to her procedure with regard to coal and provisions.

The CHAIRMAN (Vice-Admiral Sir R. H. Harris, K.C.B., K.C.M.G.):—I think we have had a very interesting lecture

this afternoon, and an exceedingly instructive discussion. We are very fortunate in having Captain Stockton and Baron Suyematsu as speakers. The time has flown so fast, that although I had a good deal to say, I will not trouble you with it. As an admiral, I have been fortunate and unfortunate in many ways; I have had more to do with International Law than any other admiral in the British Navy, both in Crete and South Africa. I know it is a thorny question, and one that lawyers at home are certainly not competent to deal with. In my own experience I have several times referred by telegraph direct to the Admiralty, for the elucidation of some knotty question that has arisen. The answer has invariably come back most promptly, "Your telegram received. So and so matter has been referred to the Crown Solicitors," and there it generally ended, certainly in any case for three weeks. Therefore, I think, we may put International Law very much in the same category as Civil Law—the less you have to do with it the better; it is one perpetual delay. I think that our people might work up the subject, and endeavour to get us into a more advanced stage; at the present moment it certainly is not in that position. With regard to the lecture, I think the most important part dealt with, is the problem which faces neutrals of the stray mines that appear to be knocking about in the Yellow Sea just now. No doubt, every nation has a right to lay mines within the three miles limit, which, however, I take it is a very short limit, and it may have to be extended. But at present, it is certainly allowable only up to that limit. But when you come to take a mine, which rumour says the Russian did—I hardly like to believe it—and place it ten miles in the open sea, and not only one, but many mines, I think it is most decidedly an interference with the rights of neutrals. We can imagine what would happen to ourselves in such a case as this. Supposing we were unhappily at war with France, which I hope may never be the case again, and that both countries were anxious to do their best to injure their enemy, and so laid mines ten miles from the shore along each side of the Channel—why, life would not be worth living in a merchant-ship navigating the Channel. The next thing with regard to these mines that are allowed to be placed within the three miles limit, is that they have an unpleasant habit of breaking adrift, and they may have broken adrift in the case which occurred the other day, when the unfortunate Japanese "Hatsuse" was sunk. I hope that was the case, and that they were not purposely laid by the Russians. I think it is a question for International Law to put an outside limit on the laying of these infernal machines, which are as dangerous to the innocent as to the belligerent. The next question that I wish to deal with is the burning one of wireless telegraphy. Speaking as an admiral, I should say: "Down with wireless telegraphy, as far as newspaper correspondents accompanying a fleet go." But, all the same, it is (I admit) most interesting to read every morning the most eloquent telegrams which we get from the "Haimun." But I think International Law in the future will have to make some very special arrangements for regulating wireless telegraphy when it is used by correspondents afloat; I agree with Captain Stockton that they will have to be put on the same footing as war correspondents on shore. As to the Russian admiral's threat of hanging them on the yard-arm, that would never hold water anywhere; it is a threat, only he could never carry it out. Then I thoroughly agree with the lecturer, that the neutrality which was shown at Chemulpho by the neutrals was most decidedly a very benevolent neutrality; it might be said even to have extended further than benevolence, and I also thoroughly agree with the lecturer that when you do effect a rescue, when a man is

rescued from a watery grave by drowning, he should not be given up to the enemy, but that he should be, as is the case with shore warfare, interned for the remainder of the war. I think that meets the case thoroughly. With regard to the question of stray mines, and the events that happened at Chemulpho, I also think we may say that the Japanese Navy seem to have behaved with their usual moderation when they made no protest in the matter. I may now conclude by asking you to accord a vote of thanks to our lecturer for his very excellent lecture.

CAMPAIGNS AGAINST INDIA FROM THE WEST AND THROUGH AFGHÁNISTÁN.

Translated and condensed from the Russian of Major-General L. N. Soboleff, by Lieut.-Colonel W. E. GOWAN, Retired, Bengal Army.

Continued from July JOURNAL, p. 824.

AFTER a stay of 57 days, Nádir-Sháh, on the 14th (26th) May, 1739, left the capital of India (Delhi),¹ and marched towards Sirhind by the same road along which he had advanced, taking with him a large number of skilful artisans and craftsmen. From here he turned northwards, by a mountain track, and so reached Wazir-ábád, thus circling round to the north of Lahore. The passage across the rivers of the Panjáb was attended by immense difficulties, for they were at the time in full flood, and the several boat bridges had been carried away. In the passage of the Chenáb, only half of his army had crossed when the boat bridge broke. Other boats had then to be constructed, an operation which took up a good deal of time, before the remainder of the troops could be ferried across.

It was not, therefore, until the 22nd June (4th July), or forty days after the march out of Delhi, that the passage of this river was completed. Meanwhile, terrible heat had set in, which told greatly on the Persian troops. From the Chenáb, Zakaria-Khán, the Governor of Lahore, who had accompanied the Persian army thus far, was sent back.

Nádir-Sháh's historian tells us that as his master, on the termina-

¹ It must have been before this date that Nádir-Sháh, to celebrate his victory at Karnál, caused a third set of coins to be struck, bearing the following inscription :

Hast Sultán bar Salatin Jahán
(The most powerful of the Princes of the Earth).
Sháh-i-Shahán Nádir-Sáhib-i-Karán
(King of Kings, Nádir, the Master of Fortune).

(Reverse.)

Khuld Allah Muluk hi. Zarb fi Ahmad-ábád, 1152 A.H.
(May God perpetuate his Reign. Struck at Ahmad-ábád, 1152 A.H.)
(Fraser.)—W.E.G.

tion of his Indian campaign,¹ had formed the intention of completing

¹ In order that we may form an approximate idea of the loss to India in blood and treasure caused by the invasion of Nádir-Sháh, the following details, taken from Fraser's account of that invasion, are herein inserted.

—W.E.G.

“Losses sustained by the Emperor and people of Hindustán after the Battle of Karnál, and until Nádir-Sháh's departure from Shahjahán-ábád :—

	Value in <i>krors</i> of rupees.
1. Jewels taken by Nádir-Sháh from Muhammad-Sháh and his nobles ...	25
2. Vessels and handles of weapons, set with precious stones, the Peacock Throne, ¹ and nine other articles similarly ornamented ...	9
3. Money in gold and silver ...	25
4. Gold and silver plate melted down	5
5. Brocades and rich stuffs of all kinds	2
6. Household furniture and other valuable commodities ...	3
7. Weapons of war, cannons, etc. ...	1
Total <i>krors</i> ...	70

In addition to the above sums :—

1. The jewels, treasure, goods, effects, and crops destroyed, besides the loss of buildings burnt, amounted to nearly 125 *krors* of rupees.

2. Loot taken by the officers and soldiers of Nádir-Sháh's army, 10 *krors* of rupees.

3. Payments made, to cover arrears of pay and gratuities issued to the soldiers and camp followers of the army of invasion; goods destroyed by fire, fields laid waste, probably 20 *krors* more.

1,000 elephants, 7,000 horses, 10,000 camels were also seized and carried off, but the approximate value of these is not given.

Total, 225 *krors*, or 2,250,000,000 rupees (say 2s. 6d. per rupee), £281,250,000.

Inhabitants killed during the same period.

1. Number killed on the roads and villages between Lahore and Karnál ...	8,000
2. Killed in the Battle of Karnál ...	17,000
3. Killed during the three days succeeding the battle, in the highways and round about the camp ...	14,000
4. Killed in the flight from Karnál to Delhi, at Sonpat, Panipat, and in the other villages that were plun- dered ...	7,000
5. Killed in the massacre of the city of Delhi, at the lowest computation ...	110,000
6. Killed whilst foraging in and around Delhi ...	25,000
7. Killed by Nádir-Sháh's troops on their return march from Delhi towards Lahore, at Tanesar and other villages ...	12,000
8. Women and others who either drowned themselves or were destroyed in the burning houses, or who died through famine and other privations ...	7,000

Total number of slain, or who died from various causes 200,000

¹See Note *ante*.—W.E.G.

the conquest of the Bukhāran and Khivan Khānates, begun by his son, Riza-Kuli-Mirza, since they had always been the source of disturbances in Khurāsān, he had sent on from the Panjāb to the Amu-Daria skilled Indian craftsmen, for the purpose of constructing a flotilla of boats on this river. And that as soon as Abul-Faiz-Khān, the Amir of Bukhāra, became aware of this plan of operations he was greatly surprised, and sent an envoy to Nādir-Shāh's camp to know what it meant. The envoy arrived on the 2nd (14th) September, but Nādir-Shāh immediately sent him back with one of his own officials bearing the following communication addressed to the Amir: "As Bukhāra belongs to the descendants of Chingiz-Khān, His Imperial Majesty has decided to visit this possession, with the object of establishing order therein and improving its administration." Nādir-Shāh, at the same time, gave directions that the purport of this communication should be made known to all the rulers of Turkistān, and that they should be required, under pain of his displeasure, to obey all his commands.

As soon as he had reached Hasan-Abdāl Nādir-Shāh sent to the Courts of Russia and of Turkey notifications of his conquests in India, and also presents for the Sultān and the Empress (Anna Ioannóvna¹), in the shape of vessels full of gems, a large number of gold coins, vases set with jewels, etc., and 70 elephants for each.

It was about this time that Riza-Kuli-Mirza, Vice-Regent of Persia, sent a report to his father concerning the state of affairs in Khurāsān. From this it would seem that Ilbruz-Khān, the ruler of Khiva, knowing that the terrible Nādir-Shāh had marched with his victorious army towards distant India, had collected a large body of Uzbaks and Turkumāns, and started off to plunder Khurāsān. But as he was moving along the course of the Tajand he heard that Riza-Kuli-Mirza had left Herāt, and was close to Sarakhs. He then took up a fortified position between Abiverd and Nissa; and after that, as soon as a small body of Riza's troops appeared in sight, he fled back to Khiva.

After crossing the Indus,² Nādir-Shāh advanced into the country of the Yusufzai Pathāns, his new subjects, a race that has always been noted for its turbulence. Having inflicted a severe defeat on a gathering of this tribe, Nādir-Shāh compelled some of them to enter his service. He then marched *viâ* Peshāwur, the Khaibar Pass, and Jálálábád, and on the 10th (22nd) November reached Kābul. Here he began to form a body of 40,000 horsemen recruited from Afghāns, Pass tribesmen, Hazāras, and other mountain dwellers, and, as soon as its ranks were filled, he sent this contingent on to Herāt.

By this measure Nādir-Shāh not only raised the numerical and effective strength of his army, but, as we have said before, he attained another and no less important object, which was the weakening of the essential power of resistance on the part of his new subjects.

As a military organiser, Nādir-Shāh, indeed, affords us a remarkable example of how in Asia it is possible to convert the most pronounced enemies into trustworthy allies.

The somewhat slow rate of progress of Nādir-Shāh's army from Delhi to Kābul is explained by the great difficulties which it encountered in the passage of the Panjāb rivers during the flood season, and by the

¹ i.e., Daughter of Iván or John.—W.E.G.

² Probably at or near Attock, as before.—W.E.G.

fact that its movement was greatly impeded by its enormous transport train. But immediately Kábul was reached, Nádír-Sháh sent on to Herát, under the escort of a portion of his army, the enormous booty obtained at Delhi and the whole of his superfluous military equipment, and also the elephants and heavy guns.

Having re-appointed Nasir-Khán as Governor of Kábul and Pesháwúr, he despatched him with a force to establish order throughout this province. And then, after a halt of six days at Kábul, he set out, on the 16th (28th) November, 1739, on his projected expedition to the Province of Sind (Tatta)—a part of the territory which had been ceded to Persia by Muhammad-Sháh.

Mirza-Mehdi explains the motives which induced his master to undertake this difficult expedition by telling us that before the great conqueror had even thought of the conquest of Hindustán, or even before he had driven the Turks out of Azerbiján, the fame of his victories had been carried far and wide, and that the ruler of Sind, Khudoyár-Khán-Abassi, had been so impressed by the rumours concerning Nádír-Sháh's doings that he had repeatedly sent to him messages of congratulation and good wishes for his further success. But that as soon as he became aware of the incorporation of Sind with Persian territory, under the influence of terror and suspicion, he refused to go and pay his respects to his Suzerain, or to offer any tokens of submission.

Although a severe winter had by this time set in at Kábul, the province of Sind is not marked by any such rigour of climate at the same season, and so Nádír-Sháh knew that he would not be obliged on that account to defer his projected expedition in this direction. The main column of his army therefore marched out of Kábul under his personal command, and a co-operating column, under the leadership of the Governor of Farsistán, was ordered to march towards Sind through Biluchistán. This column was composed of troops taken from Kirmán and other places. These two columns crossed the Suleimán range by forced marches along a route, leading through forests and flanked by lofty mountains, which brought them to the *Gomal Pass*, through which we learn they proceeded with a large complement of artillery, without any undue delay.¹ On the 14th (26th) December, Nádír-Sháh's army issued forth from the mountains at or near Dera-Ismail-Khán, which was occupied without any opposition.

Meanwhile there had been floated down the Indus from Attock seven large boats, and to these were added, at the point now reached, numerous other smaller ones. On these boats were embarked the artillery and all the heavy loads, and the flotilla then started off down stream, the army, thus relieved of its *impedimenta*, marching along the bank. On the 23rd December, 1739 (4th January, 1740), Dera-

¹ This means that the Pass in question is practicable even during the winter season both for cavalry and artillery. Indeed, Dr. Gordon, at one time a Political Resident in the town of Dera-Ismail-Khán, tells us that the route passing through this town across the Suleimán range to Ghazni, can be converted by Sappers in the shortest time so as to be practicable for the passage of artillery. He also says that there is much water, and under-foot herbage along this route. And we already know that where this route debouches into the valley of the Indus there are procurable both horned cattle and pack animals.—*Author*.

Ghází-Khán was reached, so that the distance which divides the above two places, 135 miles, was accomplished in nine days.

The local officials having preserved a correct attitude, were all confirmed in their respective posts.

From Dera-Ghází-Khán, Nádir-Sháh sent an order to Khudoyár-Khán bidding him to come to him with confidence, and counselling him not to expose his own people to the burdens and horrors of war.

On the 21st January (2nd February), Nádir-Sháh's army pitched camp at Larkhána, situated at a distance of about 270 miles to the S.W. of Dera-Ghází-Khán, and about 735 miles to the S.W. of Kábul, so that it had marched the latter distance in about 55 days, thus accomplishing, on an average, some 13 miles a day. Moreover, it should be observed that for about 250 miles of this distance it had traversed a mountainous country in its passage across the Suleimán range, whilst hampered with its artillery and other *impedimenta*.

On hearing at Larkhána that Khudoyár-Khán had fled in the direction of Gujerát and Surát, Nádir-Sháh, after leaving his *impedimenta* at this place in charge of a body of troops, pushed forward. On the 28th January (9th February) the rest of his force crossed the Indus in boats and proceeded thence by forced marches. But, as Mirza-Mehdi observes, owing to the forest-clad character of this part of the Sind province, and the absence of anything like good roads, Sháhdádpur, the objective, could not be quickly reached. Here, however, Nádir-Sháh was met by an envoy from Khudoyár-Khán, bearing gifts. He also gave the information that his master had withdrawn to Umarkote, a town or *oasis* in the desert, where, though he was suffering from want of water and lack of provisions, yet since there was no abode of any kind within a hundred miles of his camp in any one direction, he considered himself to be perfectly safe. The envoy added that when Khudoyár-Khán had set out for this spot by the best route, that was known to him alone, he did not suppose that the Persian troops would be able to surmount the difficulties that they would have to encounter.

But Nádir-Sháh was not the kind of man to be diverted from his undertakings by difficulties of any kind. On the contrary, the information imparted by the envoy made him still more angry and determined to bring his stubborn vassal to submission, cost what it might. Accordingly, on the 4th (16th) February, he gave orders to his mounted troops to lay in a stock of forage and provisions, and the same day they rode on, under his personal command. Moving rapidly day and night, the cavalcade reached the neighbourhood of Umarkote by 3 p.m. on the following day. *The length of this ride between the two places was not less than 100 miles.*

Having buried his store of riches in a deep pit, Khudoyár-Khán, in spite of the statement made by his envoy, was still afraid of being caught, and he had therefore made all preparations for a further flight, but, unfortunately for him, Nádir-Sháh and his mounted troops arrived upon the scene so unexpectedly that he had not time to get away, and though he tried to effect his escape, he was overtaken by the expert horsemen of his pursuer. On being brought before his captor, he made his obeisance, and revealed the hiding place of all his treasure, consisting of gold and precious stones to the value of one *kror* of rupees.

On the 7th (19th) February, Nádír-Sháh rode back on his way to Larkhána with his prisoner, laden with chains, and reached that place on the 20th February (4th March).

Mirza-Mehdi tells us, and his testimony is upheld by many facts, that his master always contrived to compel the allegiance to himself of all those who had risen up against him, and that he invariably accepted their expressions of regret, and confirmed them in their several positions and offices. This characteristic bears testimony to Nádír-Sháh's moderation, and affords a striking refutation to the expressed opinions of those other historians who have described him as a churlish, though successful, barbarian.

Nádír-Sháh subsequently divided Khudoyár-Khán's possessions, *i.e.*, Sindh and Tatta, into three separate provinces, and then set up Khudoyár-Khán himself as the ruler of one of them.

After conferring on these new rulers robes of honour, he despatched them to those centres of administration which he had himself selected.

We must now return to the co-operating column which Nádír-Sháh had sent to Sind. *viâ* Biluchistán. The commander of this column, having failed to reach his objective, reported to his Sovereign that he had arrived with his troops on the borders of Cutch and Mekran, and that, after meeting with considerable opposition, he had occupied these territories. Nádír-Sháh thereupon directed the commander of this column to send his troops back to their starting point, and to proceed himself to join him.

Nádír-Sháh's rapid ride to Umarkote, and, indeed, the whole of his quick movement from Kábul into Sind, show that his cavalry was distinguished by remarkable qualities. Indeed, he had always bestowed on this arm especial attention, with a view to developing in it a spirit of unlimited daring and power of endurance. A hardy horseman himself, he was passionately fond of horses. Of all the many gifts that custom decrees should be conferred in Asiatic countries, the most acceptable in his eyes was that of a horse. Horse-flesh was his hobby, and everybody knew that this was so. And therefore, since everyone hastened to send him the best horses, he rapidly acquired whole droves of horses of the best blood from every part of his vast empire. This circumstance brought him a priceless advantage, in that he was thus enabled to *mount his cavalry on the very best horses*. If it be said that his passion for horses was to some extent exaggerated, still it gave him this advantage, and he was not a man to indulge in any proclivity without calculating the effect of it.

The halt of the Persian army at Larkhána was of some duration; but whilst here, Nádír-Sháh completed all his arrangements for his campaign against Bukhára and Khiva, and, having selected Herát as the base of his intended operations, he ordered everything that was necessary for the campaign to be there collected.

On the 20th March (1st April), 1740, the Persian army left Larkhána in the direction of Kandahár, proceeding *viâ* Dádar, Sibi, Shál (a district of Quetta), and Fushange (a district of Biluchistán).

On the 13th (25th) April, Nádír-Sháh's standard was once more unfurled on the walls of Kandahár, whence he had started on his campaign against India, the interval between his departure from, and

his return to, this place being two years and seven days. And during this period his forces had traversed the following distances:—

	Miles.
From Kandahár to Kábul	316
„ Kábul to Pesháwur	195
„ Pesháwur to Delhi	567
„ Delhi to Kábul, or a little to the north of that city	800
„ Kábul to Dera-Ismail-Khán	335
„ Dera-Ismail-Khán to Dera-Ghází-Khán ...	135
„ Dera-Ghází-Khán to Larkhána	267
„ Larkhána to Umárkote	140
„ Umárkote back to Larkhána	140
„ Larkhána to Shikárpur	67
„ Shikárpur to Kandahár	356
Total	3,318

During this period (about two years), Nádir-Sháh's army, either on the line of march or in battle array, and hampered with a huge transport train, and with a considerable complement of artillery, had passed through difficult gorges, ascended lofty mountains, traversed almost trackless deserts, and effected the passage of wide rivers. The return route through the Panjáb was, moreover, accomplished during a season of fierce heat.

On the 18th (30th) April it marched out of Kandahár, and on the 15th (27th) May arrived at Herát, after traversing a distance of 380 miles in 28 days.

If, then, we take Ispahán as the starting point, we shall see that *Nádir-Sháh's forces had traversed 4,667 miles in about three and a half years.*

And this feat was accomplished by large masses of men of strangely diverse nationalities, welded together in one compact whole by this remarkable Turkumán, who had, in a comparatively short space of time, substituted for a mere rabble, devoid of all military organisation and discipline, and even lacking in martial ardour, a highly effective military force.

And so we have seen that at a time when the very existence of the Persian Empire was trembling in the balance, there rose up, in the Providence of God, this extraordinary man, gifted with great intelligence, possessed of an iron will, and endowed with the power of command and leadership to such a high degree that he, as if by magic, re-created an Empire which for several years continued to so increase in extent and importance that until at last, in area and density of population it yielded to the Chinese Empire alone, and in fame it surpassed all its contemporary sovereignties.

We do not propose to here describe the campaign which Nádir-Sháh undertook against Khíva and Bukhára, because any such description would take us beyond the limits of our original task. We will, however, say this much, that, in this fresh campaign, Nádir-Sháh once more displayed the qualities of a truly talented army leader. Starting from Herát, he rapidly reached Báikh and the Amu-Daria. Thence he crossed by the Chahárjui ford, and passing by Kára-Kul,¹ arrived before

¹ A town 38 miles S.S.W. of Bukhára, the capital of the Khánate of the same name.—W.E.G.

the town of Bukhára. The Amir having then surrendered his crown, the magnanimous conqueror returned it to him, and conferred upon him at the same time the title of reigning sovereign. But Chahárjui and the entire left bank of the Amu-Daria were ceded, by treaty, to Persia.¹ In the exaction of this condition, Nádir-Sháh was but following the object which he had already marked out for attainment, viz., the restoration to the Persian Empire of its ancient frontiers. From Bukhára he advanced towards Khiva, and having on the road encountered the army of that Khánate, headed by Ilbruz himself, defeated it at Hazárasp, and slew its leader in the fight. He then placed upon the vacant throne the nephew of the restored sovereign of Bukhára. From Khiva Nádir-Sháh returned to the south bank of the Amu-Daria at Chahárjui, and striking thence across the Turkumán steppe, arrived at Kalát,² his own beloved stronghold in Khurásán. In the course of this Khivan-Bukháran campaign, Nádir-Sháh's troops *traversed a distance of about 1,670 miles in six and a half months*, another instance of a brilliantly executed cavalry ride.

In the early part of 1741, Nádir-Sháh led a body of troops into Daghistán, to take vengeance upon the Lesghians for the death of his brother, Ibrahim-Khán, who, during his absence in India, had been killed in conflict with these savage mountaineers.

It was on this march that an untoward event occurred which exercised a fatal influence on the whole of Nádir-Sháh's subsequent life. Whilst passing through a thick wood, some unknown individual fired a shot at the great army leader with intent to kill him. All the endeavours that were made to discover the guilty person proved fruitless. The first man who was seen to enter this wood was Riza-Kuli-Mirza, and unfortunately his father henceforth conceived and nourished the suspicion that the author of the attempt upon his life was this very son. The occurrence left upon the mind of Nádir-Sháh a deep and indelible mark. The tide of his good fortune, too, seemed to have altogether suddenly changed, for in his campaign against the Lesghians he did not meet with the success which he desired. This contributed to make him the more morose and gloomy. Finally, he gave orders for Riza-Kuli-Mirza's arrest, and, having done this, he ordered his eyes to be put out.

From being a man possessed of great equanimity, he gave full vent to ungovernable paroxysms of rage, and also became cruel. Soon after this he embarked upon another war with Turkey, which dragged on for the space of three years, until, at length, he inflicted a terrible defeat upon the Turks near Eriván. This occurred in 1744, and it proved to be Nádir-Shah's final victory, for the result of it was the conclusion of another treaty of peace with Turkey.

Nádir-Sháh had now reached the age of 58, and the remaining three years of his life were full of horrors and dreadful events. Insurrections against him were of frequent occurrence, and all these conspiracies led him to commit terrible excesses. His mind began to be clouded, and it was evident that he had outlived his fame. Filled with a bitter hatred against the *Shiáh* sect, he resolved to massacre many Persians belonging to it who were serving in his army. Four

¹ See note *ante*.

² The famous Kalát-i-Nádiri, about 50 miles to the N.W. of Mashad. See *ante*.—W.E.G.

officers of his suite, having discovered that they were included in the number of his intended victims, entered into a conspiracy against him, and one night, having hidden themselves in his tent, rushed upon him as he lay upon his couch. Springing to his feet, Nádír-Sháh resolutely defended himself, and succeeded in slaying two of his assailants; but a third, with a plunge of his dagger, terminated the life of the famous Turkumán. The fatal deed was perpetrated on the 29th May (10th June), 1747 A.D., at Fati-ábád, about eight miles from Kabushán, the scene of the earlier exploits and successes of this great captain and consummate leader of men.

The monarchy, which his victories had re-created, soon afterwards began to fall to pieces, another striking illustration of the teaching of all history, that the edifice, laboriously built up by one highly-gifted man, almost always topples over, sooner or later, after the masterful personality of the founder has been removed.

(To be continued.)

GERMAN IDEAS ON THE RÔLE AND EMPLOYMENT OF CAVALRY.

*Translated, by permission of the Chief of the 2nd Bureau of the
French General Staff, from the "Revue Militaire des Armées
Étrangères."*

Continued from July JOURNAL, p. 831, and concluded.

THE masses of cavalry that Germans count on being able to employ in battle can be equally employed in the period preceding the actual fighting.

The cavalry duel is looked upon, in spite of new ideas, as an unavoidable necessity. "That which we obtained without trouble in the last war," says Balck, "will have in the future to be wrested by force." Victory over the enemy's cavalry is the necessary and inevitable condition of all ulterior action. It alone renders scouting possible, as well as the intervention of the three arms in the battle and in the pursuit."

"We cover our own forces best," writes Kleist, "when scouting so closely up to the enemy as to come hand to hand with him, giving his cavalry so much to do that it is unable to take the initiative." Bernhardt goes still further. He wants the cavalry to seek out the enemy's and bring on a duel. For this object he demands that all the cavalry should be kept in hand. The infantry divisions must content themselves with a minimum necessary for guarding their immediate neighbourhood. All the disposable cavalry, constituted into a corps, will move towards the enemy, preceded by some scouting squadrons, which, in spite of the enemy's patrols, should press their reconnaissance home. "One does not gain success by chance," he declares; "one snatches it by hard fighting." He recognises, nevertheless, that at the opening of a battle, when the two forces are coming into contact, the approach to each other of the opposing scouting troops will perhaps render that preliminary action of the cavalry difficult, and that it would be better worth while to hold it in reserve than to launch it on sterile adventures.

Bissing equally raises his voice¹ against the "grand raids," such as Stuart's, while the armies are assembling. "They might," he says, "not only compromise the cavalry, but the concentration of the Army itself."

But there would be no close contact probably over the whole extent of the theatre of operations. There would be ample room in any case active operations once commenced, because the network of scouts guarding the columns would not be as close everywhere.

"Without a preliminary victory over the enemy's cavalry," says a writer in the *Militär-Wochenblatt*, "one cannot count on masses of cavalry being able to intervene in the battle."

¹ "Massen oder Theilführung der Kavallerie," Berlin, 1900.

Another circumstance renders it still more imperative than formerly to bring on a duel with the enemy's cavalry. The importance of the masses of troops likely to be now employed renders scouting on a more extended scale necessary. After 1870 it was believed that some reconnaissances by officers would be sufficient for scouting even to a considerable distance. It was claimed that to scout was not to fight. But little by little the conviction has been arrived at, that only a victorious cavalry can scout and obtain proper information.

This method of procedure the French cavalry employed with success a century ago!

Old Marshal Blücher, in a report to the King in 1820 explained, that "if the Prussian cavalry, better mounted and better trained than the French, had been nevertheless almost always beaten by the latter, it was because the cavalry of Napoleon in the first engagements were always in the proportion to two and three to one, and that their first victories had immediately given them such a predominant superiority that the Prussian squadrons made no further attempt to make head against them."

To these tactics, of force rather than of ruse, the opponents of the famous "duel" reply by the systematic driving home of the "fire-action" argument. The enemy's cavalry, they maintain, will find no opportunity of establishing its superiority over ours; it will be brought to a standstill, helpless before the fire of our carbines.

Assuredly the idea of this preliminary duel is repugnant to reason. Skill shows itself in making the most of your means, to one single arm to oppose several, combining the powers of each. But do not other factors enter continually into war, which weaken the value of arguments founded upon pure reason? Ideas which seem the most sensible may sometimes prove dangerous. If, as we know, cavalry, victorious in twenty engagements, like that of Seydlitz, Ziethen, Murat, and Lasalle, one day flee before the enemy without suffering for it, does it follow that raw cavalry would do the same?

Will reconnaissances often be pushed right up to the enemy, across the network of his posts and patrols, when turning to the "right about," as soon as the enemy is sighted, has been raised to the height of a system?

In any case the German authors affirm the desire to place the enemy's cavalry out of action, as we did a century ago. It is necessary to recognise this and face the consequences.

Cavalry left masters of the field will instantly close with the forces screening the movement of the main bodies, and will determine their disposition and the ground covered by each unit. But, remarks a German writer, to take connaissance of the zone where the masses of the infantry are and the direction followed by them, is only what one asks of scouting! A numerous and keen cavalry will do this best; the general line of the enemy's covering troops will certainly present some weak points, of which an enterprising leader will know how to take advantage.

These weak points in the armour, the apostles of dismounted cavalry reply, will be vigorously covered by the carbines of some squadrons, and the hostile masses will come to a halt helpless, as the English cavalry did before the Boers.

It is precisely in order to be able to brush aside these weak resistances that the Germans wish to keep their masses of cavalry in hand; to fire—they will oppose a more powerful fire, if it is possible—the effect of which will be completed and turned to account by the lance and sabre.

And the whole cavalry will then push up to the main body, after having crumpled up its protecting network.

Summing up, the German writers agree that cavalry will have to fight, not only during a battle, but before it as well.

* * *

Let us now look at the different ideas on the methods to be employed: "mounted or dismounted fighting," "the lance and sabre, or firearms."

"The mounted attack is the principal method of fighting of cavalry. Its action may be completed and prolonged by dismounted fighting, when mounted fighting gives no results.

"The proper combination of these two modes of fighting, and of the action of the horse artillery batteries, gives cavalry the power of extricating themselves in any circumstances."

Such are the general principles laid down by the Regulations of 16th September, 1895, on the employment of cavalry in battle, and no proposals have been made since then with the view of modifying them.

The Regulations, then, only look upon dismounted fighting as taking the second place. "An expedient," Balck calls it. The first place belongs to the "naked steel"; to speak more exactly, the lance.

The lance, as a matter of fact, which was issued on the 2nd January, 1890, to the whole of the German cavalry, continues to be regarded as the essential weapon of the horseman. According to the Regulations, "the sabre is for use, only in case the lance is by any misfortune broken or lost." The use of the sabre is studied only in a rudimentary fashion: "in a manner not to interfere with the instruction in the use of the lance."

"The inconveniences of the lance," writes Pelet-Narbonne,¹ "are easily minimised by instruction, and, moreover, cannot be compared for an instant with the marvellous results which can be obtained from this weapon in the *ultima ratio*, that is in mounted fighting, whether in masses or as simple patrols. This truth seems to us indisputable; it must be deeply driven into the spirit of our cavalry.

"The arming of our men with the lance obliges us, in addition, to require of them the spirit of attack, because the lance is, above all, an offensive weapon, which responds to the spirit of the cavalry."

The events in South Africa do not seem to have modified the opinions about the lance. No voice has been raised to demand the suppression of this arm, and the *Militär-Wochenblatt* quite recently again extolled its virtues, vigorously criticising the exaggerated attack of the English upon it.

We must not conclude from what has preceded that the Germans only attribute a mediocre importance to the fire-action of cavalry. The same regulation which extols the "shock" tactics and the lance expatiates at length on dismounted instruction.

¹ "Der Kavallerie-Dienst," Berlin, 1897.

The individual instruction is given on broken ground as soon as the recruits have learnt how to fire. The fighting instructions of a squadron, considered as the fighting unit, are minutely pointed out; they fix the advance of the line of skirmishers by rushes, the regulation of the fire, the reinforcement of the line, the assault and the fire-attack upon the retreating enemy.

We could understand the paradox of Bernhardt affirming that, in consequence of the large proportion between its reserves and the cavalry of the active army, the dismounted cavalry has a value at least equal to, if not superior to, that of good infantry.

Starting from this datum, he demands that the same amount of time be devoted to the training in dismounted fighting as for the mounted training, and claims to foresee their prowess in the field.

Are the led horses a hindrance to the dismounted horsemen? The led horses will follow (doubtless at some distance) the movement of the attack.

In the *Militär-Wochenblatt* the somewhat reckless opinion of Bernhardt has been, however, several times criticised.

"There is not time," says one writer with some show of reason, "to make men both skilful horsemen and well-trained marksmen for war. Besides, a whole division of cavalry can only place in line a small number of carbines. The terrain does not permit of the dismounted men accomplishing much except at the risk of their ceasing to be cavalry."

And he thus concludes:—"We shall know how to die, carbines in hand," if that is to be the price of victory; but our infantry are brave and skilful; we shall only enter into competition with them if it is absolutely necessary. To everyone his trade!

Without going as far as Bernhardt, most of the writers have recognised—and that without waiting for the Anglo-Boer War—the much more important part that firearms will be able to play in a cavalry action.

"Fighting on foot," wrote Pelet-Narbonne in 1897, "has acquired with the new armament a considerable importance, and will play, without doubt, in future wars, a greater rôle than in the past. . . ."

"Cavalry, which would give priority to dismounted fighting over mounted, will have much more the character of mounted infantry; but as that method of fighting permits cavalry to act independently of infantry, and increases its power of action, fighting on foot, judiciously employed, should not hurt the *esprit* of the horsemen. It is a powerful factor, and inspires an element of confidence which one cannot afford to neglect."

"In *rencontres* between masses of cavalry," writes General Koehler, "the cavalry which is best trained for fighting either mounted or dismounted will be victorious."

"I have no need of infantry," von Schmidt often repeated, "cavalry ought to be able to depend on itself alone; it is necessary that it should know that. It has no need to reckon on infantry when it catches sight of some miserable companies. What the devil is the good of a squadron which allows itself to be chased from a village, and does not know how to attack energetically a locality? If it does not know that, I will teach it."

"Frederick finally recognised that his cavalry should not only be able to defend localities, but further attack and sweep the farms or other not too distant *points d'appui* occupied by the enemy. After

the Seven Years' War, he described the 11th Dragoons as "incompletely fitted for war, because the regiment is not in a condition to fire good volleys."

Opinion on the importance of dismounted fighting does not date, as one sees, from yesterday. But there is often a great gulf between an "idea" and "carrying it out." In spite of the injunction in the Regulation on dismounted instruction, in spite of the advice of the most authoritative military writers, fighting on foot is rarely employed by the German cavalry, at least at the Autumn Manœuvres.

Recently, it is true, a new element has been introduced into the question: to troops of cavalry are attached sometimes detachments of infantry cyclists, sometimes machine guns; and we may ask if these troops and new weapons, with the horse artillery batteries, whose value is their fire-action, are not of a nature to lessen the importance to be attributed to dismounted fighting. The march of progress leads, as a matter of fact, in all branches of activity, to the division of work, to the specialisation of the means. War cannot escape from this law. The leader who knows how to combine closely, and to make the most of the advantages of all the weapons at his disposal, in the shortest time, will obtain the maximum of return.

Cyclists, however, seem to meet with very little approval in Germany. "Almost always," writes Balck, "the advantages that cavalry will derive in battle from the co-operation of cyclists will be realised by machine guns."

These weapons, on the other hand, enjoy a marked favour.

"It is best," writes General Rohne, "to first supply these machine guns to the cavalry divisions, which will thus be relieved, at least to a great extent if not entirely, of the necessity of fighting on foot."

Cavalry will thus be allowed to resume its proper element, which is "movement." Fifteen detachments of machine guns of six guns each have been already formed in Germany, and during the last three years one of these detachments has been attached to each of the cavalry divisions constituted for the manœuvres.

The Germans have thus entered resolutely on the road of attaching machine guns to cavalry, and they seem thus to understand the modern combination of "fire" and "shock" tactics.

To the machine the "fire-action."

To the man, the horseman, the moral action; so much the more easy and the more productive of results as the machine is the more powerful.

The skill in manœuvring, the desire for mounted attack, which too frequent exercise in dismounted fighting may lessen, are maintained by the Emperor with jealous care.

Champions of dismounted fighting protest against the idea that cavalry will lose value *per se* through being trained to fight on foot.

"It does not follow," says Balck, "that the employment of this method of fighting destroys the *esprit* of cavalry," and he cites the exploits of Frederick and the dash of the squadrons of Stuart and of Schmidt.

"The idea that properly carried out instruction in dismounted fighting can injure the spirit of enterprise in cavalry, can destroy its vigour, its hardihood, its determination, is," according to General Koehler, "absolutely false, and ought to be classed in the ranks of those errors which should be combated with the greatest energy,

because it is based on an absolute lack of knowledge of human nature and of the duties of cavalry."

The efforts of the Emperor to maintain, before all, the keenness of his cavalry on horseback seems, in spite of the *dictum* of General Koehler, to prove a profound knowledge of the human heart.

Between the naked steel, which necessitates facing death at close quarters, and the firearm, which deals it from afar, the individual soon makes his choice, and it is only by degrees he is taught how to adapt himself to particular difficulties.

The 5th Cavalry Division, the 16th August, 1870, confined itself voluntarily to a harmless cannonade.

Cavalry can be very different where dismounted fighting is in favour. Side by side with that of Stuart, keen because it possessed a leader, attacking frequently on foot because it always wished to attack, one can easily find those who fight on foot because they do not dare to attack the enemy on horse-back. "From these," says the same von Schmidt, "sabre and spurs should be taken away."

In short, the highest authorities and the different German authors have been for a long time convinced of the necessity for cavalry to combine "fire" action with "shock" tactics. Pains are taken over dismounted training, but dismounted fighting is but little practised. In the actions of large cavalry units more reliance is apparently placed on machine guns than on carbines, and there seems to be a wish, as one author puts it, to leave to each its *métier*.

* * *

Although this article has designedly left on one side everything connected with technicalities, it will not be out of place, before concluding it, to say a word on the actual tendencies of the forms of mounted fighting.

On the question of principle, the *rôle* and employment of cavalry in war, one can say that complete unanimity exists; but on the subject of formation by successive (*treffenweise*) or parallel (*flügelweise*) units much ink has been expended.

We know that at one time the German tendency, when a large mass of cavalry was engaging, was to make the first line sufficiently strong to be able to stake the whole hazard of the venture upon it. The division thus engaged with a front of three or four regiments.

The second and third lines were only detachments with the view of guarding against accidents.

This conception has lost something of its rigidity. The Regulations of 1895 have clearly laid down anew:—1. "That all the formations and dispositions for battle should be made in a manner to assure, as far as possible, the victory of the first line, and that no hesitation should be felt in placing in the first line, from the outset, more than a brigade, if it is possible to strike, at the first shock, the principal forces of the enemy"; but they at the same time add:—"It is not necessary that the detachments intended for reinforcing the line should march exactly on the same alignment; they ought, on the contrary, to be placed slightly *en échelon*. This disposition promotes mobility."

As far as it is defined in the Regulations, the *rôle* of the different lines corresponds with the practice at drill; but side by side with ideas, there is the reality, which gives rise to interminable discussion.

"It is asserted that at the manœuvres," writes an anonymous author in the *Militär-Wochenblatt*, "the lines of attack are too thin; that the supporting squadrons, furnished on principle by the second line, often are wanting. The regulation for detaching from the second line some squadrons in support of the line of attack is, as a matter of fact, considered in the Army as discretionary, and is rarely carried out."

"However," continues the writer, "these squadrons are necessary. It is sufficient to study history to become convinced that each line ought to have behind it a support of a fourth, or better still, of a third, of its own strength."

"With the principle itself, the orders for sending these squadrons are forgotten, or do not arrive in time. One can only count on the supports, if each line itself furnishes its own, écheloning them the depth of the column."

The interest of this discussion on the "treffenweise" or "flügelweise" method of formation escapes us.

With much good sense, another writer in the *Militär-Wochenblatt* protests against all attempts to strictly lay down regulations. "One may be too much influenced," he says, "by the experiences of the manœuvre field."

"In war the number of squadrons to place in the first line depends on the front the enemy presents, on the space at one's disposal, on the nature of the ground. . . . Will the divisions have their six regiments complete? . . . The terrain on which one has to fight, the necessity of having to take precautions against being out-flanked, render difficult the appreciation of the dispositions of the enemy. They induce the employment of a greatly broken-up disposition of the troops, of which the successive échelons are able to extend sufficiently to allow of keeping touch with each other."

To the normal rigid order, this writer advises: "Clear your front" by means of strong échelons, and a flexible system of *échelonnement*.

Between these two extremes General von Bissing seems to strike the exact mean:—"It is idle," he says, "to discuss the question whether cavalry will fight better in extended units (flügelweise) than in successive lines (treffenweise); idle because these two dispositions do not absolutely exclude the one or the other, and that the one may be as advantageously used as the other."

"But the harmonising of effort is only guaranteed if the object and mission of each line are perfectly defined and known. In practice formations cannot be improvised."

This appears to be sound common-sense, and apparently the view of the author of the Regulations.

This discussion, moreover, only concerns the actual fighting against hostile cavalry. When approaching, the whole art consists in using the most flexible and loosest formations.

The same General von Bissing, who proclaims the necessity for a definite formation in action, conducted in 1899, to the cavalry manœuvres at the camp of Senne, the advance of his division in successive lines of small columns of route, with constantly changing intervals and distances, and this disposition generally met with much approval.

Finally, the cavalry Regulations are sufficiently loose to admit all these methods of proceeding. No serious fault has been found.

The writers confine themselves to interpreting them, and the cavalry to applying them with much freedom. This is all to be said about it.

* * *

In a recent study on "The New Doctrine" of the French cavalry, General Pelet-Narbonne admits that in the numerous articles and brochures which have appeared in France during the last two years, "many of the ideas put forward merit examination; but," he maintains, "the authors are sometimes inconsequent. To many of their proposals we will put the question: Why?"

Perhaps not finding satisfactory answers to the new doctrine, he prefers the old. The German cavalry seems to be in much the same case; and we can repeat finally the integral conclusion of the study published in the *Revue* seven years ago:—"The dominant idea in Germany, in as far as the cavalry is concerned, is to employ that arm in masses, both in its strategic and tactical rôle, before and during battle."

If we only consider the ideas put forward by different writers, we can add that the tendencies to offensive action have increased day by day.

If a duel between the hostile cavalries is not indicated as an object, it is considered so inevitable that it will sometimes be advantageous to try and bring on an action in order to finish it rapidly, and then proceed straight to the object, which might then be attained without striking a blow.

Fire action is recognised by all the writers as more important than formerly; but it is not looked upon as a means of rendering the "charge" easier and more productive of results. It is only employed in combination with the mounted attack, which is always considered the very life of the cavalry.

Such are the current ideas. They have changed but little during the last few years, and recent wars have not introduced any essential modifications. This fixity and stability of views are, in a certain measure, typical of the German character.

NAVAL NOTES.

HOME.—The following are the principal appointments which have been made: Captains—The Hon. R. F. Boyle to "Colossus" (temp.); G. W. Smith to "Aboukir" (temp.).

For Manœuvres.—H. A. Warren to "Barfleur"; E. S. Fitzherbert to "Canopus"; E. J. W. Slade to "Goliath"; R. S. Phipps-Hornby to "Highflyer"; R. B. Farquhar to "Howe"; W. H. Baker-Baker to "Ramillies"; T. B. S. Adair to "Renown"; C. E. Kingsmill to "Resolution."

The Naval Manœuvres.—The following is the official programme of this year's manœuvres and tactical exercises in home waters:—

1.—TORPEDO CRAFT MANŒUVRES.

A.—BLUE SIDE.

The Commander-in-Chief of the Home Fleet, Vice-Admiral Sir Arthur Wilson, will be in chief command, the torpedo craft being under the immediate command of Captain E. F. B. Charlton, the officer in charge of the Home Fleet destroyers.

The composition of the Blue Force:—

6 torpedo-gunboats.

48 destroyers.

3 torpedo-depôt-ships.

Territory.—North, East, and South Coast of Ireland, with Carrickfergus, Waterford, and Queenstown as bases.

B.—RED SIDE.

Rear-Admiral C. G. Robinson in chief command, "Highflyer," second-class cruiser, flag-ship.

The composition of the Red Force:—

11 torpedo-gunboats.

27 destroyers (17 acting as torpedo-boats with reduced speed).

38 torpedo-boats.

All submarines.

3 torpedo-depôt-ships.

2 submarine-depôt-ships.

Territory.—West Coast of Great Britain, with Loch Ryan, Milford Haven, and Falmouth as bases.

The above-named vessels will be either specially commissioned or completed to full complements on the morning of July 18th, and after preliminary exercises will carry out manœuvres in the Irish Channel between August 8th and 15th. During the latter period certain battle-ships and cruisers will take part.

2.—FLEET EXERCISES.

The Home Fleet and Channel Fleet will each have its normal battle-ship strength of 8 brought up to 12 by the addition of battle-ships in reserve, which will be specially commissioned on July 18th. An additional rear-admiral will also be appointed to each fleet. The 6 sea-going Royal Naval Reserve drill-ships will join the Home Fleet, and the Cruiser Squadron will join the Channel Fleet on the same day.

This total force of 24 battle-ships and 20 cruisers will carry out a series of fleet exercises until August 15th.

The following is the official list of the ships and torpedo-boats engaged in the tactical exercises and in the torpedo craft manœuvres :—

In the tactical exercises—

Battle-ships.—“Exmouth” (flag of Vice-Admiral Sir A. K. Wilson), “Royal Oak” (flag), “Ramillies” (flag), “Revenge,” “Resolution,” “Royal Sovereign,” “Russell,” “Triumph,” “Swiftsure,” “Empress of India,” “Hood,” “Howe.”

“Caesar” (flag of Vice-Admiral Lord Charles Beresford), “Victorious” (flag), “Canopus” (flag), “Illustrious,” “Hannibal,” “Jupiter,” “Magnificent,” “Majestic,” “Mars,” “Goliath,” “Barfleur,” “Renown.”

Armoured cruisers.—“Good Hope” (flag of Rear-Admiral Sir W. H. Fawkes), “Bedford,” “Berwick,” “Donegal,” “Drake,” “Essex,” “Kent,” “Monmouth.”

First-class cruisers.—“Endymion,” “Thesus.”

Second-class cruisers.—“Æolus,” “Andromache,” “Apollo,” “Dido,” “Doris,” “Hermes,” “Juno,” “Melampus,” “Sappho,” “Spartan.”

In the torpedo craft manœuvres the disposition of the forces will be as follows :—

BLUE SIDE.

In chief command, Vice-Admiral Sir A. K. Wilson, V.C., K.C.B., K.C.V.O. Headquarters, His Majesty's ship “Erebus,” Waterford. Captain E. F. B. Charlton, captain (D), Home Fleet.

Carrickfergus Flotilla. — In command, Commander C. F. Corbett, M.V.O.

Depôt-ship.—“Fisgard.”

Torpedo-gunboats.—“Hebe,” “Leda.”

Destroyers. — “Avon,” “Bittern,” “Cheerful,” “Greyhound,” “Hardy,” “Havock,” “Lee,” “Leopard,” “Mermaid,” “Racehorse,” “Ranger,” “Roebuck,” “Salmon,” “Snapper,” “Swordfish,” “Usk.”

Waterford Flotilla.—In command, Commander the Hon. H. G. Brand, M.V.O.

Depôt-ship.—“Erebus.”

Torpedo-gunboats.—“Halcyon,” “Spanker.”

Destroyers.—“Bullfinch,” “Cherwell,” “Dove,” “Eden,” “Fervent,” “Hunter,” “Lightning,” “Porcupine,” “Starfish,” “Success,” “Sylvia,” “Syren,” “Violet,” “Vulture,” “Wizard,” “Zebra.”

Queenstown Flotilla.—In command, Commander W. Cowan.

Depôt-ship.—“Emerald.”

Torpedo-gunboat.—“Sharpshooter,” “Skipjack.”

Destroyers. — “Arun,” “Blackwater,” “Charger,” “Contest,” “Daring,” “Decoy,” “Express,” “Fairy,” “Falcon,” “Ferret,” “Osprey,” “Ostrich,” “Quail,” “Sturgeon,” “Thorn,” “Tiger.”

RED SIDE.

In chief command, Rear-Admiral C. G. Robinson; head-quarters, His Majesty's ship "Dreadnought," Milford Haven; cruiser, His Majesty's ship "Highflyer."

Loch Ryan Flotilla.—In command, Commander W. C. M. Nicholson.

Third-class battle-ship.—"Hero" (depôt).

Torpedo-gunboat.—"Antelope."

Destroyers.—"Leven," "Vixen."

Torpedo-boats.—Nos. 80, 82, 85, 86, 87, 98, 99, 107, 108, 109, 110, 111, 112, 113.

Milford Haven Flotilla.—In command, Commander J. H. Robertson.

Third-class battle-ship.—"Dreadnought" (depôt).

Torpedo-gunboats.—"Circe," "Jason," "Seagull."

Destroyers.—"Gipsy," "Lively," "Sprightly."

Torpedo-boats.—Nos. 25, 26, 27, 33, 34, 41, 42, 45, 51, 52, 53, 54, 55, 57, 58, 66, 68, 74, 78, 79.

The submarines with "Thames" and "Hazard," under Captain R. H. S. Bacon, D.S.O.

Falmouth Flotilla.—In command, Commander J. I. Graham.

Second-class battle-ship.—"Devastation" (depôt).

Torpedo-gunboats.—"Gossamer," "Grasshopper," "Niger," "Onyx," "Sheldrake," "Speedwell."

Destroyers.—"Angler," "Arab," "Brazen," "Dasher," "Dee,"

"Electra," "Flirt," "Haughty," "Itchen," "Kestrel," "Lynx,"

"Opossum," "Petrel," "Ribble," "Skate," "Spitfire," "Sunfish,"

"Teazer," "Teviot," "Vigilant," "Waveney," "Zephyr."

Torpedo-boats.—No. 65, 67, 72, 73.

UMPIRES.

The following officers have been appointed:—

Umpires.—Chief umpire, Rear-Admiral H. T. Grenfell, C.M.G. (H.M.S. "Vivid"); secretary, Captain A. J. Henniker-Hughan.

Umpires Afloat.—Captains—T. P. Walker, C. E. Anson, M.V.O., F. G. Eyre, A. D. Ricardo, G. C. A. Marescaux, H. H. Stileman.

Umpires at Bases.—Captains—E. F. Inglefield, R. P. F. Purefoy, M.V.O., S. Nicholson; Commanders—R. J. Keyes, E. H. F. Heaton-Ellis, F. W. Caulfeild.

The first-class battle-ship "Prince George" paid off at Portsmouth on the 14th ult., her officers and crew turning over to her sister-ship, the "Majestic," which commissioned on the following day, for service with the Channel Fleet; the first-class battle-ship "Magnificent" also commissioned on the 16th ult. at Devonport, for service with the Channel Fleet.

The first-class cruiser "Blenheim," from China, paid off on the 20th ult. at Chatham. The second-class cruiser "Cambrian," late commodore's ship of South Atlantic Division, paid off on the 2nd ult. at Devonport; the second-class cruiser "Naiad," arrived on the 5th ult. from the Mediterranean; the second-class cruiser "Talbot," arrived on the 16th ult. from China, at Plymouth, and will pay off at Devonport; the second-class cruiser "Arrogant," which has been ordered home from the Mediter-

anean, on account of serious boiler defects, arrived at Plymouth on the 26th ult., and will pay off at Devonport.

The battle-ships "Canopus," at Portsmouth; "Barfleur," "Howe," and "Dreadnought," at Devonport; the "Goliath," "Ramillies," and "Resolution," with the cruiser "Hermes," at Chatham, commissioned on the 14th ult. for the manœuvres.

Steam Trials.—The new first-class battle-ship "Commonwealth, the first of the "King Edward VII." class to proceed on her trials, has completed with most satisfactory results the steam tests specified in the contract. The ship was ordered from the Fairfield Shipbuilding and Engineering Company, Limited, Govan, in 1902, and the first keel-plate was laid on 17th June of that year; she was launched on 13th May, 1903, and her contract steam-trials were completed on 25th June; so that, although she has yet to be fitted with ordnance, her completion at the Fairfield Works will be well within 2½ years. The vessel is 425 feet long between perpendiculars, and 453 feet 9 inches over all, 78 feet beam, and, when drawing 26 feet 9 inches of water, displaces 16,350 tons. She is armoured for the greater part of her length with a water-line belt 9 inches thick, tapering to 2 inches at the ram, and excels all preceding British ships in the power of her artillery, having four 12-inch guns mounted in pairs in barbettes, four 9·2-inch guns mounted singly in barbettes, at the four quarters of the citadel, and ten 6-inch Q.F. on central-pivot mountings in a concentrated casemate between decks, as in the Japanese ship "Mikasa," with 7-inch armour in front, while the broadside between this and the water-line belt has an 8-inch strake. Thus the whole broadside above water in the central part of the ship is armoured.

The machinery consists of two sets of four-cylinder triple-expansion engines, having cylinders 33½ inches, 54½ inches, 63 inches, and 63 inches in diameter respectively, with a piston stroke of 48 inches. Steam at 270 lbs. is supplied from sixteen Babcock and Wilcox water-tube boilers, having about 47,250 square feet of heating surface and 1,400 square feet of grate area. The engines working at 120 revolutions were to develop 18,000-I.H.P. to give the ship a speed of 18½ knots. On trial these results were considerably exceeded.

A preliminary steam-trial of the "Commonwealth" was made on Monday, the 20th June, prior to the ship being taken over by the Admiralty officers. On Tuesday, the 21st, a start was made with the official steam-trials, consisting of 30 hours' steaming, each at one-fifth power and seven-tenths power, and a final trial of 8 hours at full power. The first trial was finished at 5 p.m. on Wednesday, and at 8 p.m. on the same day the vessel was again under way for the seven-tenths-power trial, which was completed early on Friday, 24th June. For the full-power trial of eight hours a start was made at 3 o'clock the next day, and on completion of the steaming trial, and when the vessel was well out in the Firth of Clyde, the tests of starting and stopping the machinery, also the steering and turning tests, were made. All the trials were carried out to the entire satisfaction of the officials representing the Admiralty, and a return to the anchorage was made about 7 p.m., 25th June.

Before proceeding on each of the trials the vessel was ballasted so as to float about 2 inches deeper than her nominal load draught, and the following are the official steam-trial results:—

	I.H.P.	Mean revolutions.	Mean speed.	Coal consumption per I.H.P. per hour.
			knots.	lbs.
One-fifth power... ..	3,644	70.65	11.0	1.74
Seven-tenths power	12,760	107.45	17.9	1.68
Full power	18,538	120.05	19.01	1.83

The speeds at the higher powers were recorded as the result of six runs over the measured mile at Skelmorlie. The results on the first series at 70 per cent. of the total power were as follow :—

Result of Six Runs on Measured Mile at 75 Per Cent. of Full Power.

No. of Run.	Time on Mile.	Speed in Knots.	Revolutions per Minute. Mean of P. and S.	I.H.P. Collective.
	min. sec.			
1	3 28	17.3076	107.6	12,735
2	3 16	18.3673	108.4	12,772
3	3 16.4	17.4418	109.0	12,931
4	3 15.6	18.4049	107.4	12,417
5	3 26.7	17.3410	107.6	12,519
6	3 14.4	18.5185	108.9	12,892

The details of the runs at full power on the 25th ult. are also given :—

Result of Six Runs on the Measured Mile at Full Power.

No. of Run.	Time on Mile.	Speed in Knots.	Revolutions per Minute. Mean of P. and S.	I.H.P. Collective.
	min. sec.			
1	3 8.4	19.1082	120.35	18,478
2	3 8.2	19.1285	119.1	17,931
3	3 12.8	18.6721	119.5	18,213
4	3 6.5	19.3029	120.15	17,947
5	3 11.1	18.8382	119.3	17,987
6	3 4.1	19.5546	119.4	18,205

It will be noted that the trials of the "Commonwealth" only occupied five days. The vessel returned to Fairfield Dock on Monday, 27th June, where she will receive her heavy armament and be finished complete for the Fleet Reserve.—*Résumé from Engineering.*

AUSTRIA-HUNGARY.—The following appointments have been made :—Rear-Admirals — Julius von Ripper to Command of the Manœuvre Squadron and 1st Division; Beck Edler von Wellstaedt to Command of 2nd Division of Manœuvre Squadron; L. Kneissler von Maixdorf to be Assistant to the Port Admiral at Pola. Linienschiffs-Kapitän—J. Ritter Mauler von Eisenau to Command of Torpedo-boat Flotilla.

The Manceuvre Squadron consists of the following ships :—

1st Division.

Battle-ships.—“Habsburg” (Flag of Commander-in-Chief), “Arpad,”
“Babenberg.”

2nd Division.

Coast-defence battle-ships.—“Monarch” (Flag of 2nd in Command),
“Wien,” “Budapest.”

Third-class cruiser.—“Zenta.”

Torpedo-avisos.—“Komet,” “Meteor,” “Satellit.”

Torpilleurs de haute mer. — “Kigzo,” “Python,” with 9 first-class torpedo-boats.

The Budget of the Ministry of Marine has been passed, as well as an Extraordinary Vote of 75,000,000 kronen. In addition to 8 new torpedo-boats of an improved type, with engines developing 2,000-I.H.P., giving a speed of 26 knots, the construction of all the new ships is to be hastened. When defending the increased outlay before the Delegations, Admiral Baron Spaun, the Minister of Marine, stated that “with the new credits, in a year and a half we shall have the same number of battle-ships as we had in 1870; but without them we should have had to wait eleven years for the reconstruction of the fleet.” The Minister further explained that, as the result of the lessons of the Russo-Japanese war, a considerable sum must be expended on the better protection of the harbour and roadstead at Pola. He also stated that it was intended to construct one submarine for experimental purposes.

The first and second year cadets have been embarked in the corvette “Saida” from the Naval Academy for the usual summer instructional cruise, and the third year cadets on board the first-class cruiser “Kaiser Franz Josef I.”

The Personnel and Matériel of the Fleet.—The whole personnel of the fleet actively employed amounts to 10,906 officers and men, of whom 3,122 officers and men are employed on shore service and 7,784 afloat.

201 officers are employed on shore service, of whom 31 are employed at the Ministry of Marine in Vienna, including 1 admiral, 1 vice-admiral, 1 rear-admiral, 4 captains, and 6 commanders.

272 officers (including 2 rear-admirals) and 2,578 men are employed in the Adriatic and Mediterranean Squadron; 128 officers and 1,301 men are employed in ships on foreign service; 221 officers and 3,284 men are employed in the training and harbour ships.

The total number of officers employed is 1,442, with 9,464 petty officers and men.

The *matériel* of the fleet, including ships under construction, is made up as follows :—Battle-ships, 11, including 2 under construction; first-class armoured cruisers, 3, including one under construction; second-class cruisers, 2; third-class cruisers, 6; torpedo-avisos, 7; first-class torpedo-boats, 24; second-class torpedo-boats, 38. River monitors, 6, including 2 under construction; river patrol vessels, 7. Special service ships.—Casemate ships for local defence, 5; yachts and station-ships, 5; sea-going factory-ship, 1; torpedo dépôt-ship, 1; submarine mining ship, 1; various duties, 12. Training-ships. — Sea-going training corvettes, 5; gunnery training-ships (including tenders), 4; torpedo training-ships, 2; submarine mining ship, 1, and two tenders; boys' training-ship, 1, with 2 tenders.

The displacement of the active service fleet amounts to 130,868 tons, with 285,490-I.H.P., carrying 647 officers and 9,078 men when manned, with 50 heavy guns, 176 guns of medium calibre, 104 light guns, 530 small Q.F. guns, and 6,640 machine guns. — *Kriegs-Marine (Ordentliches und Ausserordentliches Erfordernis, 1904, and Marine Rundschau.*

FRANCE.—The following are the principal promotions and appointments which have been made: Rear-Admirals—J. J. G. de Percin, to be Commander-in-Chief of the Algerian Naval Division; P. L. Germinet to be Chief of Staff at Brest. Capitaines de Frégate—J. L. Lallemand and A. L. Huquet, to Capitaines de Vaisseau; A. P. Collas to "Durance"; A. F. Lefèvre to "Descartes."—*Journal Officiel de la République française.*

Rear-Admiral de Percin took over the command of the newly formed Algerian Division on the 10th ult., and hoisted his flag on board the "Pique." Rear-Admiral Germinet took over the duties of Chief of the Staff at Brest on the 1st July.

The second-class cruiser "Descartes" commissions at Toulon on the 16th inst. for service in China, where she will relieve a sister-ship, the "Pascal"; she is to leave at the end of the month, and is to convoy to "Saigon" a torpedo-flotilla, consisting of the two new destroyers, "Sabre" and "Francisque," with six first-class torpedo-boats. The new first-class armoured cruiser "Kléber" commissioned at Cherbourg on the 5th ult. for the Mediterranean; she arrived at Toulon on the 16th ult., having averaged a speed of 13 knots during the run; she has relieved the armoured cruiser "Latouche-Tréville," which was paid off on the 22nd ult., and placed in the normal reserve at Toulon.

The repairs at Brest to the new first-class armoured cruiser "Léon Gambetta," which struck on an unknown pinnacle rock on the 1st March last, while on her first trial-trip, have now been completed, and the ship is to resume her trials immediately.

The coast-defence battle-ship "Furieux" has been continuing her trials at Cherbourg; with the engines developing 4,957-I.H.P., the coal consumption was 118 kg. (260·072 lbs.) per square metre of grate surface per hour. It is reported that during her gunnery trials, one of her turrets has sustained serious damage, which will take at least three months to make good.

New Floating Docks, Destroyers, and Torpedo-boats.—The Minister of Marine has concluded a contract with the Société des Forges et Chantiers de la Méditerranée at Havre and La Seyne, for the construction of four floating docks for the use of destroyers, for Cherbourg, Toulon, Bizerta and Saigon; they are to be completed in twelve months, two being built at Havre and two at La Seyne. Their dimensions will be as follows:—Length, 200 feet; beam, 40 feet 6 inches, with a lifting power of 360 tons.

Two destroyers and six torpedo-boats of a new type are to be constructed at Havre by the Société des Forges et Chantiers de la Méditerranée. The destroyers are to have a displacement of 350 tons, in place of the 307 tons of the last types; they are to be 190 feet long, with engines developing 7,200-I.H.P., to give a speed of 30 knots.

The new torpedo-boats are to have a displacement of 100 tons; the engines are to develop 2,000-I.H.P., giving a speed of 26 knots. They will probably carry three torpedo-tubes instead of two, one in the stem, and two on a single mounting, either amidships or on the after part of the deck.

New Submarines.—Three submarines of a new and larger type have been commenced at Cherbourg, and are to be named "Emeraude," "Opal," "Rubis." They will have a displacement of 600 tons, and engines of 600-H.P.; their length will be 45-m. (147 feet), and beam 4-m. (13 feet). They will have two propellers, the motive power being accumulators and gasoline motors, according as the vessel is submerged or afloat. The speed is to be 12 knots, and they will be fitted with six torpedo discharging tubes.

Torpedoes and Torpedo-Boats.—The *Temps* criticises at some length M. Pelletan's views on this question as they appear in his explanatory statement on the Naval Estimates, a *résumé* of which we gave in the last number of the JOURNAL. The writer refers to the Minister's regrets that "the huge battle-ships of the 1901 programme still weigh heavily on the Budget, and absorb a large part of the vote for building purposes, so that there remains but little for small vessels. . . . What is now taking place in the Far East shows what will be the rôle of the torpedo in future wars; and at a time when the construction of large armoured-ships absorbs two-thirds or three-fourths of our available funds, we see similar vessels sunk in an instant by the sting of a minute engine concealed beneath the surface of the sea."

"This view of the Minister of Marine," continues the writer, "as to the rôle of the torpedo in future wars, precise as it appears to be in its terms and arguments, is nevertheless founded on wrong premises. There is only one word in France to express two absolutely different weapons of offence: the word torpedo is used simply by us to denote an engine which explodes under water, and is applied indiscriminately to denote a submarine mine reposing quietly under water or the automobile torpedo discharged from a ship, which can strike its object when fired from afar. In all other Navies the word torpedo is used solely to denote the automobile weapon, the word mine being applied to the fixed engine of destruction."

"The method of expressing himself adopted by the Minister shows a confusion of thought in his mind, which deprives his opinion of all value; the events of the Russo-Japanese war prove this beyond question, because they have clearly shown the power and the mischief which the submarine mine can effect, while, on the other hand, they are far from demonstrating the value of the torpedo and the ships specially fitted for carrying it."

The writer then points out that at least seven vessels, including the battle-ships "Petropavlovsk" and "Hatsuse," have been totally destroyed by the explosion of mines, while other vessels, including another battle-ship, the "Pobieda," have been more or less seriously damaged; and it is worthy of note that both large and small vessels, friend and foe alike, have been the victims of this terrible weapon of offence. The automobile torpedo has also caused some grave damage, notably in the attack on the night of the 8th February on the Russian ships lying off Port Arthur, when two battle-ships and a cruiser were put out of action; but several other attempts since made against the Russian ships by the Japanese torpedo-boats have been failures, nor have the Russian destroyers or torpedo-boats, on their side, scored any success against the Japanese blockading squadron.

"The torpedo, then, as such, has only once proved its value as an offensive weapon; and there has been no demonstration of any necessity for materially increasing the number of our torpedo-boats. On the other hand, in the opinion of all competent naval officers, both in France and abroad, the successful use of torpedo-vessels can only be secured when they are supported by large ships. Thus the Japanese torpedo-boats succeeded in their attacks, because they were supported by a powerful cruiser squadron,

which, in its turn, was supported by the battle-ships; the ships which could have been effectively employed against them being kept in check by their fear of being cut off by the Japanese supporting fleet.

"It is important to note that the Japanese have not been led astray by the success of their first torpedo attack, and the first ships they have ordered since the war began are two 16,000-ton battle-ships, and they are not at present troubling themselves to add to their torpedo flotilla. We ought not, then, to regret the large expenditure on our armoured ships in the Budget, because our lack of these vessels is our weak point. These armoured units are indispensable to us, in order that we may be able to make proper use of our torpedo flotillas, which in themselves are much stronger than any other naval Power can put into line against us.

"M. Pelletan, in his explanatory note to the Budget, states that England counts her destroyers by hundreds, and she still continues to build them; we have to content ourselves with some forty or so."

"In the first place it is a mistake to say England counts her destroyers by hundreds; as a matter of fact she has at the present time 124, and is building 36 more. To count by hundreds you must have at least 200, and England has not that number. If we compare all the torpedo-vessels of the two countries we shall find that we have a larger proportion of these vessels than our neighbours have. England possesses 32 destroyers (old type), 124 other destroyers, and 87 torpedo-boats, to which must be added 36 destroyers and 10 torpedo-boats under construction or projected, or a total of 291 torpedo-vessels. We have 16 destroyers (old type), 24 destroyers (new), and 233 torpedo-boats, to which must be added 15 destroyers and 94 torpedo-boats building or projected, making a total of 382 torpedo-vessels.

"If we have 100 torpedo-vessels more than England, we have, on the other hand, 35 battle-ships and 22 armoured cruisers less than she has. Instead of regretting the amount in the Budget devoted to armoured construction, we ought rather to increase it, as the fighting value of our torpedo flotillas will depend on the support which they will receive from our large ships."

The *Temps* further draws attention to the careless way in which the Budget for 1905 is presented under the administration of M. Pelletan, and makes fun of the complete disappearance of 3 vessels, which it can only suppose have foundered at sea or been blown up by a submarine. These are the destroyers "Bélér" and "Flamberge," attached to the Northern Squadron for 6 and 7 months respectively, after which they completely disappear from the year's Estimates, and the cruiser "Sfax," which, after 6 months' service in the Reserve, also ceases to exist.

On the other hand, errors are also made in the opposite direction: the first-class cruiser "Dupuy de Lôme" is given an extra month's life, one month on trial and twelve months in the Reserve; and the submarine "Oméga" (not yet commenced) actually lives her year twice over, or twenty-four months in all, namely, twelve months under construction, seven months in commission, and five months on trial. This, says the *Temps*, is really "too much," and this, the first production of the new *bureau du Budget*, created by M. Pelletan, must be edifying to Parliament.

It is interesting to note that the Budget Committee have, while passing the Estimates, recommended a reduction of £320 as a protest against the careless way they have been drafted. The figures in the Budget fail in many instances to correspond with those of the annexed schedules, which should constitute an analysis of the sums required.

The backward state of the building programme has also met with sharp criticism; out of 13 submarines, for which money was voted two years ago, only two have been completed. Nothing has as yet been done on nine vessels, the construction of which was sanctioned in 1902. A sum of 8,000,000 francs (£320,000) is put down for two new ships, without one single detail being given. They are merely indicated as "C16" and "C17."—*Le Temps, Le Yacht, and Le Moniteur de la Flotte.*

RUSSIA.—The following appointments have been officially promulgated: Admiral—Skrydloff to supreme command of the Naval Forces in the Far East and Pacific. Vice-Admirals—Besobrasoff to command of the First Squadron of the Pacific Fleet; Tschuchnin to command of Black Sea Fleet, and the harbours in that sea; Birileff to command of the Baltic Station; Kruger to command of the Black Sea Training Squadron. Rear-Admirals—Roschestwenski to command of the Second Squadron of the Pacific Fleet; Enquist to be Second-in-Command of the Second Squadron of Pacific Fleet; von Fölkersahm to command of Cruiser Division of the Second Squadron of the Pacific Fleet; Rimski-Korsstoffs to be Head of the Nicolaieff Naval Academy and the Naval Cadet Corps; Wisniewski to be Second-in-Command of Black Sea Training Squadron; Nilow to command of the Baltic Manœuvre Squadron.

Organisation.—By an Imperial Decree, the squadron and ships in the Baltic with the harbours and dockyards of Cronstadt, Sveaborg, Helsingfors, Reval, and Libau (the new Kaiser Alexander III. harbour) have been formed into one supreme command, to which Vice-Admiral Birileff has been appointed; a Manœuvre-squadron consisting of coast-defence-vessels in the Baltic, which will not include the training-ships or ships on their trials, is also to be formed yearly, and will be under the orders of the Commander-in-Chief.

General.—The First Squadron of the Pacific Fleet, the command of which has already been taken over by Vice-Admiral Besobrasoff, consists at present, of all the Russian war-ships in the Far East, including the ships shut up at Port Arthur, and the Squadron at Vladivostok. Like his senior officer, Admiral Skrydloff, Vice-Admiral Besobrasoff at first made Vladivostok his headquarters, and it was he who was in command of the cruiser division, during its first successful raid; it is believed that he is now in Port Arthur, and that he reached that port on board the destroyer "Lieutenant Burakoff," which recently, eluding the blockading squadron, reached Neuchwang, where she embarked the Admiral, and successfully returned with him to Port Arthur. In its last raid, when the "Knight Commander" was sunk, the Vladivostok cruising squadron was under the command of Rear-Admiral Jessen; and in spite of all reports, it does not appear that Admiral Skrydloff has himself been afloat since taking over the command in the Far East.

The new 2nd Division of the Pacific Fleet, forming at Cronstadt, will consist, as far as present information goes, of the following ships:—

First-class battle-ships—"Imperator Alexander III.," "Osl'yabya."

Second-class battle-ships—"Navarin," "Sissoi Velikie," "Imperator Nicolai I."

First-class cruisers—"Admiral Nakhimoff," "Aurora."

Third-class cruisers—"Svietlana," "Isumrud," "Zemtchug."

Torpedo-avisos—"Voievoda," "Posadnik," "Abrek."

Rear-Admiral Roschestwenski has already hoisted his flag on board the "Svietlana," a cruiser built at Havre, and completed some six years ago, which was fitted to serve as a yacht for the Grand Duke Alexis; but as at present constituted, this squadron is much weaker than the Japanese Fleet, and it would seem doubtful if any real intention exists to send it out.

The "Imperator Alexander III." is the only one of the five remaining battle-ships of the 1898 programme, which is as yet ready for sea. As far as present information goes, it is unlikely that any of the others can be completed for some time yet; the "Kniaz Suvarov" is probably the most advanced, but she has not yet commenced her trials; the "Borodino" was brought down from St. Petersburg to Cronstadt in the spring, but her armour had to be removed before she could pass through the Canal; the "Orel" severely strained herself when she went ashore, also while coming down from St. Petersburg; while the "Slava," launched last autumn, cannot possibly be completed for another year.

The training squadron in the Black Sea began its instructional duties on the 14th June. The squadron consists of the battle-ships "Georgi Pobiedonosets," "Tri Sviatitelia," "Rostislav," and "Ekaterina II.," with the torpedo-avisos "Kasarski," the mining-steamer "Dunai," and eight torpedo-boats.

The Libau dockyard has been very busy in fitting out as auxiliary cruisers the merchant-steamers "Fürst Bismarck," "Columbia," "Maria Theresia," "Auguste Victoria," and "Belgia," recently purchased in Germany; these vessels have been renamed the "Don," "Ural," "Texel," "Kuban," and "Irtisch"; whilst the "Friche Conté," purchased in France, has been called the "Anadir."

The Naval Technical Committee has decided to replace the Russian Popoff wireless telegraphy system, at present in use in the Russian Navy, by the German Släby-Arco-Braun system, which has been perfected by the Siemens-Halske firm, and has shown itself far superior to the Popoff, both in rapidity of working and in the distance to which messages can be transmitted by it. All the ships now fitting out for the Far East are to be fitted with it, and the German firm has also received instructions for the erection of two wireless telegraphy stations on the Lake Baikal, one at Baikal, and the other at Tanchoi, on the opposite side of the lake.

The want of naval officers is already beginning to show itself. From 1875 to 1900, an average of 58 cadets from the Naval Cadet Corps were advanced to sub-lieutenants, of whom some 40 rose to the higher grades. In the next three years, the numbers were increased to 75, 110 and 130, but at present there are not enough cadets to meet the requirements of the fleet. In order to obtain a sufficient number of candidates, the press is now agitating for a repeal of the old regulations, under which only youngsters of noble birth are eligible for admittance to the Cadet Corps, and the demand is made that the naval service should be thrown open to all Russian youths, who can pass the necessary examinations.

The Volunteer Fleet.—Some details in regard to the Volunteer Fleet, a force which has recently come prominently under notice, owing to the performances of two of the ships in the Red Sea, may be of interest.

The Ukase permitting the formation of the Volunteer Fleet was signed on the 30th May, 1878, and its constitution was based on a Prussian ordinance of the 24th July, 1870, calling into being a somewhat similar force during the Franco-German war. The principal articles of the Ukase are as follows:—

1. The Volunteer Fleet is created with the view of increasing, in time of war, the naval forces of the country by ships having their commanders and crews already on board.

4. The Volunteers or crews on board are to be placed at the disposal of the Minister of Marine.

5. The owners, who wish to place their ships at the disposal of the Minister of Marine for war purposes, must make a declaration stating the terms on which they wish to sell.

6. If the Department finds the ships in good condition, and the terms proposed by the owners reasonable, the vessels will be inscribed as ships of war.

7. The men on board (the Militia of the Fleet) will, on entering active service, be inscribed on the rolls of the active *personnel* of the Fleet.

8. Their officers will be entitled to rank: the commanders as corvette-captains, their mates as lieutenants.

9. The period of service under the man-of-war flag will be counted as active service.

10. While thus serving, the officers and men will be subject to the rules and regulations in force for the Imperial Navy.

11. In case of wounds, they will enjoy the same rights as the seamen of the Active Fleet.

The first subscription, which was opened on the 2nd July, 1878, under the patronage of the then Tsarevitch, produced in a short time, four million roubles (£416,667), and three large steamers were bought from the Hamburg-American Company. Since that date, the fleet has been steadily increasing; in January, 1886, it numbered 8 steamers, with a combined displacement of 50,860 tons, and 33,308-I.H.P., and received a subsidy of 17,500 roubles (£1,823).

In January, 1895, the subsidy was increased to an annual grant of 600,000 roubles (£62,500), for a term of 10 years, in order that the Company might replace their old *matériel*, and four new ships of at least 8,000 tons displacement, and with a speed of not less than 17 knots, were to be constructed, with two cargo steamers for the transport of *matériel*. In 1893 the fleet was composed of 14 large steamers, the oldest dating from 1883. Their total displacement amounted to 128,000 tons, with an I.H.P. of 84,000. The ships forming the fleet, at the beginning of the war, were the following:—

1. "Kostroma," "Tamboff," "Nigi-Novgorod," "Orel," "Saratov," and "Yaroslav," 1888 to 1893. These vessels were from 7,900 to 8,200 tons displacement, with a speed varying from 14 to 18 knots.

2. "Petersbourg," "Kasan," "Kherson," 1893 to 1896, of from 9,000 to 10,500 tons displacement, 12,000-I.H.P., with a speed of 19 knots.

3. "Smolensk," "Moskwa," "Bogatyr," "Ouragan," "Poltava," 1898-1901, of from 11,000 to 12,000 tons, with engines developing from 13,000 to 16,000-I.H.P., giving a speed of 20 knots. With the exception of the "Kostroma," all these vessels are twin-screwed, and they were all built in English yards. There are, in addition, four transport ships, of 10,500 tons displacement, 3,000-I.H.P., and 13 knots speed; the "Ekaterinoslav," "Kief," "Voroney," and "Vladimir," 1895-1896. Nearly the whole fleet were constructed by Messrs. Hawthorn and Leslie, on the Tyne.

All the fleet repair at Odessa, Vladivostok, and Ljbau, where also armaments and stores used to be kept for them. For some time past, however, the ships have carried their guns and ammunition stowed away

in their holds. The armament consists of eight 12 cm. (39-inch) Q.F. Obukoff guns, and eight 75 mm. (13-pounder) Q.F. guns.

Since 1896, the regulations have required that one-third of the crews should be composed of men who had served five years in the Active Fleet, and who re-engage for a further period of two years. Their pay is 20 roubles (£2 2s.) a month, and their special duties are as gunners and steersmen. The commander and his second officer have also to belong to the Imperial Navy, and the other officers are often probationary officers of the fleet.

New Canals.—The plans for the projected canal to connect the Baltic with the White Sea, are now so nearly complete that the City Council of St. Petersburg are about to apply for the necessary authorisation to commence the works. According to the measurements made in the survey, the distance between Lake Onega and the White Sea is 129 versts (86 miles), 39 versts (26 miles) of which are navigable by nature, so that it is only for a length of some 90 versts (60 miles) that regular canal works with locks, etc., will have to be constructed.

In regard to the long-discussed canal between the Baltic and Black Seas, a new plan has lately been worked out by a Russian engineer. By the routes he has selected, it will be possible to utilise 330 miles of the course of the River Dvina, and 1072 miles of the Dnieper, leaving only a communication canal of some 66 miles to be built. The depth will be 31.5 feet, with a breadth at the bottom of 140 feet, and on the surface of 266 feet. The principal loading and discharging places *en route* will be Cherson (the southern starting point), Aleschi, Berisslav, Nikopol, Alexandrovskiy, Ekaterinoslav, Verkhni-Dnieprovski, Krementschug, Novogorod Tchevasski, Kanev, Kiev, Mogilev or Kopy, Beschenkovitchi, Dvinsk (Dünaburg), Jacobstad, and Riga. The canal is to be lighted throughout by electricity. At a speed of 8 knots it will take 183 hours to pass through the canal, or for the journey from St. Petersburg to Odessa 12 days, a voyage which, at present, takes an ordinary steamer some 6 weeks to accomplish. The naval strategical importance of the canal is self-evident, while its mercantile possibilities are also enormous. The cost of the undertaking is estimated at 350,000,000 roubles (£36,458,334).—*Kronstädtski Viéstnik, Le Yacht, and Marine Rundschau.*

UNITED STATES.—*Reports as to the Armoured Cruisers of the "Tennessee" Class.*—The Acting Secretary of the Navy decided the armoured cruiser controversy in favour of the majority of the Board of Construction. Rear-Admiral Melville, the dissenting member of the Board, recommended that the majority report be approved, in order that there be no delay in the beginning of the work on the cruisers. The majority and minority reports were submitted to the Acting Secretary, and are of great interest. They are signed by Rear-Admirals O'Neil, Bradford, and Bowles, and Captain C. D. Sigsbee. The majority report follows:—

NAVY DEPARTMENT.—BOARD OF CONSTRUCTION.

"1.—In submitting this circular to the Department, the Board regrets that it is unable to reach an unanimous agreement concerning all the features of the proposed cruisers of the 'Tennessee' class; but begs to call the attention of the Department to the fact that the disagreement only extends to a matter of 190 tons, which the minority considers should be allowed for machinery weights over and above the weight now prescribed by the circular.

2.—Were it not that Congress has limited the displacement of the vessels in question to 14,500, this matter might have been adjusted to the satisfaction of the minority, but to make an additional allowance of 190 tons a new design would have to be prepared, with a sacrifice of some of the elements of the vessels which are deemed to be of great importance, as it would necessitate a reduction in their armament, armour, or coal carried on trial, neither of which, in the opinion of the Board, should be made.

3.—One hundred and ninety tons represent 35·7 per cent. of the total weight of the battery (531 tons) of these vessels, and 7·2 per cent. of the total production (2,629 tons) provided by the circular. It is greater than the weight of three 10-inch guns and mounts, which weigh 161·6 tons, or of eleven 6-inch guns and mounts, which weigh 178 tons. If this weight were taken from the protective deck, it would necessitate a reduction of its slopes from 4 inches to $1\frac{1}{2}$ inches in thickness. Hence it will be seen how great a sacrifice of armour or armament would be necessary, and to what an extent the efficiency of the vessels would be impaired, if the additional weight desired by the minority for machinery weights was taken from the objects named.

4.—With regard to the minority reference to the Act of Authorisation, and its intent, the Board begs to state that in its opinion the term 'highest practicable speed' should be construed to mean the highest practicable speed compatible with other necessary elements. If Congress had desired the vessels to have extreme speed, the phrase would probably have read 'the highest possible speed.'

5.—In preparing the scheme for these vessels, it has been the aim of the Board to provide for vessels of maximum efficiency on the displacement designed by law; and, therefore, they have been assigned more powerful batteries and greater protection than any armoured cruisers yet built or projected, so far as known. Notwithstanding this increase, the percentage of displacement allowed for armament and two-thirds ammunition in the 'Tennessee' class is only 0·01 of 1 per cent. greater than is allowed for the same object in the 'Maryland' class; and the percentage of displacement allowed for protection in the 'Tennessee' class is 1·91 per cent. greater than is allowed for the same object in the 'Maryland' class. That is, 29 per cent. more of displacement is given to armament, ammunition, and protection in the 'Tennessee' than in the 'Maryland'; and the Board is of the opinion that in consequence thereof the 'Tennessee' class will be much more effective vessels than the 'Maryland' class.

6.—In considering the question of speed for the proposed cruisers, the Board decided upon 22 knots, believing this to be the maximum speed that could be attained in conjunction with a powerful battery and good armoured protection. Experiments with models of the proposed vessels in the model tank at the Washington Navy Yard indicate that a speed of 22 knots can be obtained with 23,000-I.H.P., and, therefore, the Board has allotted 2,060 tons for machinery weights, which is the amount specified by the Engineer-in-Chief as that necessary to develop 23,000-I.H.P.

7.—As these vessels are to be built by contract, bidders have the privilege, under Class II. bids, of submitting their own designs of hull and machinery, or either, and are, therefore, at liberty to provide additional horse-power if in their judgment it is necessary, provided they offer a vessel in other respects equal to the Department's design.

8.—The Board is, therefore, of the opinion that the circular should be issued as submitted herewith, as it believes that responsible bidders will

offer to build such vessels as are in therein described, guaranteeing them to make a speed of 22 knots on trial."

Admiral Melville, in his minority report, says:—

"I do not believe that the resulting vessels will comply with the Act of Congress authorising them—which requires that they shall 'be of not more than 14,500 tons trial displacement, carrying the heaviest armour and most powerful armament for vessels of their class, and to have the highest practicable speed and great radius of action, and to cost,' etc.

'Trial displacement' is a very arbitrary sort of thing, for it may be obtained in a dozen different ways by simply changing the list of articles to be carried. When the ship is in commission and ready for sea, her displacement will be more than 16,000 tons, and then is the time she will need all the power designed for her to keep up her speed. With 25,000-I.H.P. she will make 21·5 knots at this displacement; with 23,000-I.H.P. her speed will be about 20·9 knots, or fully a knot and a half less than the 'Drake,' when that vessel is also deeply loaded.

For vessels 'of their class' we naturally refer to the latest armoured cruisers of about their displacement in the European navies, and the nearest of all these is the 'Drake' class in the English Navy.

The protection of the 'Tennessee' is claimed to be better distributed than that of the 'Drake,' and her main battery is much heavier; but this is to a great extent off-set by her great inferiority in speed, which places her at the very great disadvantage of not being able to use it unless the faster vessel chooses to permit it.

When we remember the fright caused in 1893 by the appearance of a phantom fleet on our coast, we can easily imagine the panic that would occur if a squadron of the 'Drake' class happened along, for none of our ships could overtake and engage it on anything like equal terms; the light, fast ships would be no match in battery and protection, and the heavy fighting-ships and vessels like the 'Maryland' and 'Tennessee' could not overtake it.

I do not believe that 23,000-I.H.P. will give the vessels of the 'Tennessee' class a speed of 22 knots, and this belief is based on the performance of somewhat similar ships. The 'Drake' class above referred to are 400 tons less displacement, and have finer lines, and it requires about 23,000-I.H.P. to give them a speed of 22 knots on their trials. The 'Gambetta' class in the French Navy are to have 27,500-I.H.P. to make 22 knots on 12,416 tons displacement. From this it would appear that 25,000-I.H.P. is a very moderate estimate of the power required to drive a ship of 14,500 tons displacement 22 knots; and an armoured cruiser of that size that cannot make it cannot be considered an up-to-date, first-class ship.

It has been stated that tank experiments with models show that a speed of 22 knots may be expected of the 'Tennessee' class with an I.H.P. of 23,000. Now, such experiments are very useful in some ways, and much information has been derived from them, but as a means for determining the power actually required to drive a large ship at high speed I do not consider them nearly as reliable as calculations based on the performance of other ships of as nearly as possible the same size and fineness.

I may mention, incidentally, that my views as to the value of calculations based entirely upon experiments with models are shared by some eminent foreign engineers and naval architects with whom I have spoken.

It must be remembered, too, that limiting the machinery weights to a figure too low to allow engines and boilers of requisite power, with proper proportions, to be placed in the vessel, and at the same time requiring a certain speed, with penalty for failure, simply means that the Government

is pretty sure to obtain an inferior ship : for if she does not make her speed she is a failure ; if she makes her speed by the machinery being driven harder than it was designed to be, lasting injury to the motive power is certain to be the result. Now, no contractor will risk the loss of prestige and money that would be caused by a ship failing by a fraction of a knot, and he will have the machinery driven to the uttermost limit to prevent it, taking the chances that it will last through the four hours of the trial, as was done when there were premiums for excess of speed or power. The machinery may last through the trial trip, even if driven 10 per cent. above its design ; but after the vessel is delivered to the Government the trouble will begin.

I have offered to reduce the machinery weight for 25,000-I.H.P. to 2,200 tons, or 140 tons more than the majority wishes to allow. This I propose to do by omitting some of the spare parts, lightening floor plates, gratings, ladders, etc., and, possibly, reducing the cylinder diameters slightly ; but not by lightening the boilers or any other parts whose efficiency will be impaired thereby. This increase in weight of 140 tons will only increase the draught $2\frac{1}{4}$ inches, which would not be noticeable except in dead smooth water, and will decrease the speed (at deepest draught) less than 0.05 of a knot. On the other hand, it will give the vessel 2,000 more I.H.P., and increase her speed 0.3 of a knot—and in a chase this additional speed might easily turn the scale in her favour.

As the law requires the trial displacement to be 14,500 tons, I think it would be much wiser to reduce weight carried in some other way than by cutting down the power of the engines and substituting machinery of lower power which was not designed for her, and which will necessitate new drawings and specifications, and produce, at the best, a sort of hybrid—too slow to overtake a first-class cruiser, and too lightly armoured to engage a battle-ship.

As the drawings and specifications for machinery of 25,000-I.H.P. are already made and printed and ready for distribution, and as the preparation of new ones will require so much time—at least two months—with consequent delay, I think it only proper to state the conditions under which the Bureau of Steam Engineering has worked so far, and to call attention to the fact that important changes in the protection of the vessel—all of which are, undoubtedly improvements, but of which no notice was given till at the last meeting of the Board—so increased the weight that it is now proposed to even up things by taking away from the machinery weights. . . .

It was not until about the 1st of October that the Bureau of Steam Engineering was informed that the total weights of the 'Tennessee' class exceeded the designed weights by 70 to 80 tons, with no margin for contingencies, and that the actual total weight would have to be reduced about 200 tons to avoid exceeding the designed full-load displacement of the vessels, and, as stated above, it was proposed to do this by reducing the machinery weights.

It seems to have been overlooked that the Department has already approved the specifications for machinery of 25,000-I.H.P., this approval having been made after these specifications had been referred to the Bureau of Construction and Repair, Equipment, and Ordnance, and such changes made in them as were necessary to avoid possible conflict or interference with the designs.—*U.S. Army and Navy Journal*.

MILITARY NOTES.

PRINCIPAL PROMOTIONS AND APPOINTMENTS FOR JULY, 1904.

Lieut.-Generals—Lieut.-General E. A. Gore to be Colonel of the 6th (Inniskilling) Dragoons.

Major-Generals—Major-General H. D. Hutchinson, C.S.I., I.A., from Assistant Military Secretary (for Indian Affairs), to be Director of Staff Duties. Major-General H. S. G. Miles, C.V.O., C.B., from Commanding the Troops in Cape Colony District, to be Director of Recruiting and Organisation. Major-General G. L. R. Richardson, C.B., C.S.I., C.I.E., I.A., from Commanding a 2nd Class District, to Command a 1st Class District in India. Major-General H. B. Feilden, C.B., to be Colonel of the Royal Warwickshire Regiment. Major-General and Hon. Lieut.-General Sir F. W. T. Burroughs, K.C.B., from the Royal Warwickshire Regiment, to be Colonel of the Princess Louise's (Argyll and Sutherland Highlanders).

Colonels—Colonel J. A. Coxhead, C.B., from h.p., to be a Colonel on the Staff for Royal Artillery in India, and is granted the temporary rank of Brigadier-General whilst so employed. Lieut.-Colonel H. N. C. Heath, from the King's Own (Yorkshire L.I.), to be A.A.G. Hind Army Corps, and is granted the substantive rank of Colonel in the Army. Lieut.-Colonel and Hon. Colonel F. C. Romer, C.M.G., 6th Battalion The Lancashire Fusiliers, to be Assistant Director for Militia Services. Lieut.-Colonel F. C. Viscount Maitland, City of London (Rough Riders) Imperial Yeomanry, to be Assistant Director for Imperial Yeomanry Services. Colonel H. M. Mason, I.A., from Colonel on the Staff, to command a 2nd Class District in India, and is granted the temporary rank of Brigadier-General whilst so employed. Lieut.-Colonel and Brevet Colonel B. T. Mahon, C.B., D.S.O., from h.p., to command a 2nd Class District in India, and is granted the substantive rank of Colonel in the Army and the temporary rank of Brigadier-General whilst so employed. Colonel A. B. Fenton, I.A., from A.A.G. of a Command, to be A.Q.M.G., Head-Quarters in India. Colonel G. F. Francis, I.A., from A.A.G. of a Command, to be D.A.G. of a Command, and is granted the temporary rank of Brigadier-General whilst so employed. Lieut.-Colonel and Brevet Colonel H. S. Wheatley, I.A., to be a Colonel on the Staff in India, and is granted the substantive rank of Colonel in the Army. Lieut.-Colonel and Brevet Colonel R. B. Adams, M.C., C.B., I.A., A.D.C. to the King, to be a Colonel on the Staff, and is granted the substantive rank of Colonel in the Army. Colonel E. B. Hunt to be Chief Engineer in India. Hon. Colonel T. S. Cave, V.D., Lieut.-Colonel Commandant 1st V.B. The Hampshire Regiment, to be Assistant Director at Headquarters for Volunteer Services.

HOME.—*Scheme for the Reorganisation of the Army.*—In introducing his scheme for the reorganisation of the Army in the House of Commons

on the 14th July last, the Secretary of State for War observed that the report of the War Commission had drawn attention to the fact that there was no evidence to show that the Army was either in composition or in numbers the organisation that was really required to satisfy the needs of the country; it had been made apparent that the Army was not fully and scientifically organised for war, and that there were circumstances leading to wasteful effort, bad work, and misunderstanding; and, in addition, it had become clear that this Army was one of the most costly machines ever devised. As the Committee knew, the Government had recently taken steps to ascertain, the real military needs of the Empire through the agency of the Committee of Defence, and greater progress had been made towards the elucidation of the problem than was made in the 20 years before the formation of the committee. Much had already been done in the direction of decentralisation, and this reform was to be extended very largely. The *personnel* of the Intelligence Department had been doubled. By these changes it was hoped to remedy some of the evils on which the War Commission dwelt. But the report also showed that our Reserve was not what it purported to be, and that it was in a measure a substitute for an army, or rather its first line. This meant that we could not send away an effective force to hold the field on the first sign of danger, a state of things which must be rectified. The three years' term of enlistment could not be continued, for the men were not extending their service, and consequently there would shortly be a serious deficiency in the drafts for India. The three years' term for the Line was not compatible with the maintenance of the forces required for the defence of India and the Colonies, and it largely accounted for the falling off in the recruiting for the Guards. Having referred to the fact that more trained officers were wanted, he turned to the problem of the Auxiliary Forces, and stated that the condition of the Militia was profoundly unsatisfactory, dwelling on the shortage of officers and men. It was believed that the average Militia regiments could not take the field under existing conditions, and it was time to mend a state of things so disastrous. The Volunteer force, which contained the best material we had in the whole of our Army, could not, the Royal Commission declared, face a Continental army with success. Coming to the remedies which he proposed for the various evils upon which he had dilated, he asked the Committee to agree to maintain with the colours and in the Reserve the number of men required for the defence of the Empire and no more. At present this country and India maintained forces numbering in all 1,040,000 men, and he did not think that this was necessary. Conscription, as advocated in the House of Lords, would result, he calculated, in a net annual addition to the Army Estimates of £25,900,000, and he declined to encourage those who favoured such a costly reform. He proposed to reduce the cost of the Army by reductions in its numbers. He suggested that fourteen battalions of the Line and five of the garrison battalions formed at the beginning of the war should be gradually absorbed. The other part of his scheme was to divide the infantry of the Army into two parts, and to keep certain battalions at home on the home establishment. These battalions were each to be reduced to 500 men, of whom 100 would be general service soldiers and the remainder short term soldiers enlisted for two years, who would afterwards join the Reserve for six years, coming up for training every third year. These battalions were to be really territorial. Special arrangements were to be made to attract young officers. The linked-battalion system would be done away

with, and large depôts, like the Guards', would be established. A striking force of 15,000 or 16,000 men would be maintained at Aldershot, ready to take the field at a moment's notice. The number of cavalry regiments was not to be altered, nor was a battery of the Royal Artillery to be touched. He intended, following the recommendations of the Esher Commission, to divide the Army into commands, which, while corresponding closely with those created by Mr. Brodrick, would be known by different names. Turning to the Militia, he said that the condition of this constitutional force was very grave. At present, the Line was living on the Militia. In the autumn, he intended to consult with Militia officers as to the expediency of transforming about 70 Militia battalions. His main object was to raise the standard of the Militia as well as of the Line, and units which were redundant or which were incapable of recovering the ground which they had lost ought to be cut off. He asked the Volunteers, as well as the Army and the Militia, to submit to a sacrifice of numbers, and his proposal was to reduce the establishment to 200,000 men. He desired, at the same time, to give a larger grant to the Volunteers. An annual sum would be put at the disposal of rifle clubs, and a sum would be set aside to enable the Volunteers to provide themselves with transport. The economy effected by his reforms would be very small next year, but afterwards it would be progressive.—*Précis from The Times.*

CONGO FREE STATE.—*Military Forces of the Congo States.*—After the establishment of the Congo Free State in 1885, a commencement was made to organise the defensive forces of the country, by means of a levy of the population; up to then, the International African Association, whose legal successor that State was, only obtained mercenaries, at great cost, from Zanzibarees, Haussas, Kaffirs, and other races. The first attempts to introduce native-born soldiers commenced with the Bangalas, an intelligent, robust, and brave negro race; voluntary enlistment for one year was first laid down, soon, however, the period of service might be considerably increased. The Basokes followed the Bangalas, the status of troops, however, still remained mixed, being composed partly of native volunteers and partly of foreign levies. It was, nevertheless, soon recognised that the Congo negro had the makings of a first-rate soldier in him, and that he took to the profession gladly, as the position of a soldier of the State greatly exalted him in the eyes of his own people. It was thus possible to take another forward step in 1891, viz., to introduce conscription whilst still retaining voluntary enlistment. The soldiers of the State served, in the first line, as police, their duties being to maintain peace in the interior, to put a stop to the eternal conflict between races, and to suppress the slave trade.

As has been already stated, the native levies are now distinguished from the Volunteers. The former are raised in all districts, where the State possesses real authority, with the co-operation of native chiefs. The system of drawing lots is generally followed. On an average, one per cent. of the population is conscripted, a fresh soldier having to be found when an old one is discharged. The period of service is for 12 years, 5 of which are passed in the Reserve. A special arrangement is made with regard to the Volunteers, who must serve for at least 3, and at most 7 years. In every district, the number of native Volunteers must never exceed one-fourth of the required contingent. Foreign native, so-called Coast Volunteers, may also be enlisted.

When both voluntary enlistment and conscription stagnate, the assistance of the chiefs is obtained by the payment of bounties to them, thus :—

For Volunteers for less than 4 years' service, the sum of 30 francs is paid.

For Volunteers of more than 4 years' service, 60 francs.

For full-grown soldiers, 80 francs.

For young soldiers (12 to 18 years old), 60 francs.

The Congo troops consist of :—

1. The Staff.
2. Camps of instruction.
3. Regular Companies.
4. Reserves.

1. The Staff consists of the commanding officer and of the European officers, and non-commissioned officers with him. The duties of the former have hitherto been more of an administrative nature, as the troops are in a military sense, under the Governor-General of the Congo Free State.

2. There are 4 camps of instruction : the Lower Congo, Jumbi, Yrebu, and Umangi ; each of them are under a commandant, who has 3 company-commanders, and some non-commissioned officers under him. In these camps, all conscripts and Volunteers are so trained, that after a year they may be drafted into the regular companies. Each camp consists of 2 companies, which are each divided into 2 classes, one for the first 4 months' period of service (recruit drill), the other for the rest of the training period (company drill, musketry, field service).

3. At the present time, there are 25 regular companies. They consist as a rule, of 3 sections, which are commanded by Europeans, and composed of 50 blacks (2 sergeants, 4 corporals, 2 buglers, and 42 men). About a third or a half of each company is quartered in its proper station, the remainder being split up into small posts in its own district : endeavours are constantly being made to decrease the number of these detached posts.

4. The Reserve Corps was formed in 1898 ; it is composed of a combatant and a non-combatant branch ; the former is made up into companies of about 150 men, and is completed yearly by conscription ; the latter feed the corps reservists and the regular companies. They are only called out on mobilisation, but otherwise, only appear yearly on a muster parade. In the case of necessity, State officials and workmen may be called to arms ; these men are formed into supplementary companies, who may be commanded by their own officials in the dearth of Europeans.

With regard to defensive works, it is only necessary to mention the principal fortifications, viz., those of the Lower Congo. They are under a director, who commands both the Artillery and Pioneer companies, and has the Artillery *matériel* under him. This consists of bronze guns, Krupp 75 cm. guns, Nordenfeldt guns, and Maxim machine guns. The regular companies are, as a rule, armed with the Albini rifle, a few picked individuals having repeating Mauser rifles. The Europeans, in addition, carry the automatic Browning pistol. Blacks alone, who have been discharged, may only carry old flints. The pay is very strictly regulated : Conscripts, in addition to rations, receive from 21 to 50 centimes a day, Volunteers a little more. It is singular that soldiers' wives receive rations, and under certain circumstances, pay. Children of more than 2 years receive a half ration. The uniform of the black troops consists of blue

linen trousers, coat and fez; on parades, a red woollen kammerbund is worn. The promotion of natives is in the hands of the sergeant-major. Length of service is shown by chevrons, bronze medals being given as a special distinction. The following punishments are inflicted: deductions of pay, flogging (4 to 50 lashes), defaulter drill, arrest, reduction, expulsion. The State looks especially well after discharged soldiers, who are absolutely protected against slavery. At the same time, precautions have to be taken so that men who have served their time, and who do not return to their homes, should not become a source of danger through congregating in too great numbers in the vicinity of the stations.

The strength of the troops has fluctuated a good deal. In 1889 it only consisted of 1,487 men, of whom only 111 were natives of the country. The highest effective strength was in the year 1898, when it amounted to 18,000 on the active list. At the present time, 13,650 blacks are serving, who are commanded by 207 European officers, and 303 European non-commissioned officers. The recruit contingent for 1904, is laid down at 2,600 men (in 1896 it was 6,000). Out of the total number of black troops, about a third are Volunteers. Out of the total budget of about 28 million francs of the Congo Free State, about 7½ millions are devoted to the defensive forces. About a fourth of the latter sum is set aside for allowances for maintenance of the natives, and is generously distributed in proportion to local conditions. As regards ships, the State has 37 steamers, 30 of which are on the Upper Congo. Amongst these are 26 transports, of from 5 to 150 tons, and 2 tugs of 350 tons. A new steamer of 500 tons will probably be shortly put in commission, whilst another larger one will follow at the end of the year. There are also about 40 small steamers belonging to private individuals as well as many tugs and boats.—*Militär-Wochenblatt*.

FRANCE.—*Attaching Artillery to Infantry Divisions*.—On the 12th July last, the President of the Republic signed a decree ordering that field artillery regiments should be placed, in peace time, under the orders of generals commanding infantry divisions. As a rule, a complete regiment is attached to each division. When, exceptionally, the artillery attached to an infantry division only consists of a portion of the regiment, under the command of a lieutenant-colonel or a major, that field officer has all the prerogatives of a regimental commanding officer, with the following exceptions:—

1. He cannot alter the regulations with regard to the composition and duties of regimental boards and courts of enquiry.

2. Administration is centralised for the whole corps under the board of administration; the lieutenant-colonel or major is responsible for the execution of the decisions of that board as regards the batteries placed under his orders.

This organisation is not applicable to:—

1. The 19th Artillery Brigade.
2. Alpine batteries of the 14th and 15th Districts.
3. Horse artillery batteries of cavalry divisions.
4. Batteries stationed in Corsica.
5. Brigade divisions undergoing gunnery practice.

A special Ministerial instruction fixes the date on which this organisation will come into force, as well as the distribution of artillery regiments, or portions of regiments, amongst infantry divisions, and defines the new

powers of generals commanding the artillery. All previous regulations on the subject are abolished.—*Revue du Cercle Militaire*.

The New Law on Military Service.—The new law on military service was recently passed by 517 to 43 votes by the Chamber of Deputies. That this new law, which has of course still to obtain the approbation of the Senate to its changed form, marks an enormous development, especially with regard to the infantry, which there is no doubt will be the principal arm in battles of the future. For that arm will in future consist of men who have only served for two years with the Regular Army, whilst it now is composed of men who have served for three, two, or only one year. Every year, too, 7,000 men will be enrolled from amongst those who have hitherto been posted to the non-combatant branches, and who were not compelled to serve in peace time. Servants, artisans, and administration troops will in future be taken from them, which will naturally release infantry soldiers from these duties.

The personal burden which the new law lays on the French people is, however, an extremely heavy one. In order to be able to maintain about 570,000 men with the colours, all who are in any way fit must be enrolled. With a population of 38½ millions in 1902 in France, 393,000 men were liable to service, of these 275,000, or about 70 per cent., were actually enrolled and posted to the Army. As in future all those men will be enlisted who are under 4 feet 11 inches in height, the percentage of men enrolled in the Army will increase.

At the same time the French Chamber of Deputies decided to reorganise the military taxes existing since 1889, and to double the receipts from the same. The Government and the Deputies take the view of the case that those who, on account of physical infirmities, cannot be drawn to serve, but who nevertheless are able to earn their living, will be liable to a military tax to the extent of 10 francs or more, which will be demanded from him or his nearest relations as a Government tax. He or his nearest relations will have to pay 2½ francs annually for three years as Government taxes, and in addition, 10 centimes on every franc as a military tax. The War Minister reckons that 54,000 men will be yearly assessed for these taxes.

This, however, is not all. In future all men who, on transfer to the Landwehr, that is to say about 34 years of age, cannot prove that they are either married or else widowers with children, and therefore liable to a Government tax of at least 10 francs, will have to pay double the amount of that tax as a military tax. It is self-evident that the carrying out of this two years' period of service must be at a greatly increased cost. Serious steps must be taken to procure the necessary number of non-commissioned officers. As a training period of two years appears almost impossible for cavalry, a large number of 3-year volunteers will be drafted into it, to whom larger pensions will be paid. The War Minister reckons all this additional expenditure at from 30 to 40 million francs. The Chamber of Deputies is unanimous with regard to all these heavy personal and financial burdens, as they consider they are necessary in order to maintain, the Army fit for war and ready to strike.—*Danzer's Armee-Zeitung*.

NETHERLANDS. — *Adoption of Q.F. Artillery Matériel.* — The Netherlands Parliament approved, on the 8th of January last, a scheme with

regard to the re-armament of the field artillery. A memorandum by General Bergantius, Minister of War, attached to the scheme, gives information regarding the comparative trials to which the proposed models were subjected, and the reasons dictating the Government's selection. The Krupp type, with hydraulic brake, spring recuperator, and shields, has been adopted. The matériel is similar to that delivered by the Essen Works to Sweden, Denmark, and Turkey, and analogous to that ordered by Switzerland. The following are its characteristics:—

Calibre	7.5 cm.
Weight of projectile	6 kilogrammes.
Number of bullets (11 grammes) of shrapnel ...	270.
Initial velocity	508 metres.
Maximum range	6,400 metres.
Weight of gun in battery	950 kilogrammes.
Weight of gun on carriage	1,750 "
" caisson	1,800 "
Maximum rate of fire per gun per minute...	20.

The necessary matériel consists of 204 guns and 408 caissons, plus 200 caissons for the parks. The latter were built in State workshops, from existing wagons still fit for use. It is hoped that a great portion of the ammunition, as well as some of the wagons and accessories, may be manufactured by national industry. The total cost will amount to 7 million florins (about £560,000), of which about a fifth will return to the National industries. It will be extended over 1904, 1905, and 1906. The amount credit for 1904 is 425,000 florins. It is chiefly destined for the formation of a complete experimental battery for the range at Oldebroek. It is anticipated that by the spring of 1906 the whole of the Netherlands artillery will be provided with the new matériel.—*Revue Militaire*.

RUSSIA.—*European Reinforcements for the Far East*.—An Imperial ukase, dated the 3rd May last, ordered that a portion of the troops of the Kiev and Moscow districts should be mobilised with a view to reinforcing the Russian troops in the Far East. The chief effect of the measures taken was to place the Xth Army Corps in the Kiev and the XVIIth in the Moscow district on a war footing. Before mobilisation, the Xth Army Corps consisted of the following units:—

The 9th (Poltava) Infantry Division and the 9th Artillery Brigade.

The 31st (Kharkov) Infantry Division, less its 2nd Brigade (the 123rd and 124th Regiments), and the 31st Artillery Brigade, less its 2nd Brigade Division.

The 10th (Kharkov) Cavalry Division and its horse artillery (3rd Brigade of Cossacks of the Don).

The 6th Engineer Battalion.

The XVIIth Army Corps, before mobilisation, consisted of:—

The 3rd (Kalonga) Infantry Division and the 3rd Artillery Brigade.

The 35th (Riazan) Infantry Division, less its 2nd Brigade (the 139th and 140th Regiments), and the 35th Artillery Brigade, less its 2nd Brigade Division.

The 2nd (Orel) Independent Cavalry Brigade.

The 17th Engineer Battalion.

The units lacking in the 31st and 35th Divisions and in their artillery had already been despatched to the Far East. The units of the two army corps in Europe were all mobilised during the month of May, with the exception of the three regular regiments of the 10th Cavalry Division. An order of the 18th May attached these three regiments under the immediate authority of the general commanding the Kiev District, and placed the 3rd Brigade Division of the Cossacks of the Don under that of the general commanding the district artillery. By the same order the 5th Reserve Brigade, previously placed under the orders of the Commander of the Xth Army Corps, and the 55th and 56th Reserve Brigades similarly under the command of the XVIIth Army Corps, were transferred to the immediate control of the district commanders; finally, the cadres of the dépôt battalions, left behind them by mobilised infantry regiments, were placed under the generals commanding the local brigades, and for discipline under the district commanders.

On the 25th May the commander of the XVIIth Army Corps reported by telegram to the district commander that the mobilisation was concluded; it lasted for seventeen days. It is not known how long the Xth Army Corps took to mobilise; but on the 17th May the operations of both army corps appeared to be equally advanced. Battalions, batteries, and squadrons were completely formed by that date; they were able to be present at the Emperor's farewell review, which took place successively at Bielgorod and Kharkov on the 17th, at Kremenchong and Poltava on the 18th, at Orel and Toula on the 20th, and at Kalonga, Riazan and Moscow on the 21st May.

According to the Russian Press, the Xth Army Corps appears to have been despatched first. The daily papers announced the departure of the staff of the Xth Army Corps on the 2nd June; that of General Sloutchevski, commanding the army corps, on the 11th June; that of General Biderling, commanding the XVIIth Army Corps, and of his staff on the 15th June.

A ukase of the 9th June ordered, by a limited application of the plan of general mobilisation, the calling out of Reservists of the various districts of the governments of Penza, Perm, Simbirsk, Samara, Saratov, Orenbourg, Oufa, in the Kazan zone; of the various districts of the governments of Moscow, Tambov, Vladimir, Vononèje, Orlov, Riazan, Toula, in the Moscow zone; and of the various districts of the governments of Kharkov and Koursk in the Kiev zone. The object of this measure was to place on a war footing a certain number of Reserve units quartered in these districts, of various units of the medical service, of special troops, and of dépôt battalions belonging to the Regular regiments. It would appear from the appointments of generals and colonels published in the Russian official military journals that the principal formations resulting from this ukase are the 51st, 54th, 55th, 56th, 61st, 68th, 71st, 72nd, 73rd, and 78th Reserve Divisions. The use to which these divisions will be put is not exactly known, but it would appear that a portion of them will be formed into two new Siberian army corps, to be numbered V. and VI., under the command of Generals Dembowski and Sobolev.

A General Staff circular of the 23rd May gives out that the following Cossack units, destined for the Far East, have been formed from men on the unattached list:—

The Orenbourg Voisko or District.—1 division, consisting of the 9th, 10th, 11th, and 12th Regiments.

The Oural Voisko. — 1 brigade, consisting of the 4th and 5th Regiments.

In his orders of the 2nd June, the commander the Orenbourg Voisko announced the departure of the mobilised divisions a few days previously; as regards the Oural Brigade, according to the Russian Press, it immediately preceded the Orenberg Division to the Far East. Finally, the official mention of the presence of the 11th Battery of Horse Artillery at the affair at Sandai on the 27th June, establishes the fact that the 10th Brigade Division of Horse Artillery (the 11th and 20th Batteries), recently formed in accordance with the order of the 23th April last, has also been despatched to the Far East.—*Revue Militaire*.

Port Arthur.—Port Arthur, the second Russian military port in the Far East, consists of a narrow irregular harbour, the entrance to which past the Tiger's Tail is very crooked, and so shallow that heavy war-ships can enter only at high water. Taking a large ship in or out is a difficult operation, requiring care and sometimes as much as half a day's time. Very often, too, it happens that a ship will run aground and thus block the passage for a greater or less time.

The harbour consists of two parts: the eastern basin and western lying behind the Tiger's Tail. The former is the main port, and consists of a large, rectangular stone basin capable of accommodating many large ships. There is a dry dock here, an 80-ton crane, arsenals, repair shops and fitting-out shops.

The western harbour is so filled in with sand that at low water a large part of the bottom is exposed. It was intended to dredge the larger part to a depth of 45 feet.

The town and harbour are surrounded by hills 650 feet to 985 feet high. The land fortifications, which extend around on the northern and partly on the northwestern side, at a distance from $2\frac{1}{2}$ to 3 miles from the inner eastern basin, command all the hilly foreground of the fortress. These works form two lines, one extending from the coast northward to the railroad, the other, not so long, on the western side of the harbour. They are well located, are of excellent construction, and render the fortress, it would seem, secure from attack on the land side.

The coast batteries and works are situated on both sides of the entrance, and on the Tiger's Tail peninsula which separates the western harbour from the sea. The principal forts occupy commanding positions on the heights facing the sea, varying from 266 feet to 410 feet high. In most cases the older Chinese forts have served as foundations for the more modern works. These have been, however, thoroughly rebuilt according to modern plans, are well equipped and heavily armed, and may be considered, therefore, much more modern than some of Russia's European fortresses.

The works completed up to 1903 constituted, in the main, three large forts. The first is armed with eight 11·8-inch (30 cm.) guns and six 6-inch (15 cm.) guns; the second with eleven 11·8-inch and twenty-eight 6-inch guns; the third with twelve 11·8-inch and fifty-two 4-inch (10 cm.) guns. It is also known that the large fort commanding the entrance has seven Canet 5·5 cm. rapid-fire guns.

Some smaller works and a number of connecting points constitute the total of the fortification work up to the early part of 1903. All the group of works as well as the land fortifications, are connected with one another by smaller works located on commanding points, thus forming a complete defensive system around the port. In the budget for 1903-4, 13 million

roubles were appropriated for the fortifications at Port Arthur, including an extension of the works towards Dalny.

The Russian military press describes Port Arthur as an impregnable bulwark for Russia's position in the Far East. These new works and batteries erected by the Russians are excellently well-built, and most favourably situated to resist attack. Their armament as a whole includes 400 guns between 4·3-inch (12 cm.) and 11·8-inch (30 cm.) calibre. Having immense amounts of ammunition, supplies and equipment on hand, also a large artillery park and possessing the security of supply of good drinking water, it should be possible for the place to withstand a year's siege successfully.

On the other hand, English papers consider Port Arthur a shell-trap that could not hold out against attack and especially a massed attack by heavy guns from the sea-front. By such an attack the warehouses, supply depôts, workshops, etc., in the city (they are not massively built) and all the ships lying in the harbour could soon be destroyed.—*Journal of the United States Artillery.*

WAR NOTES.

THE THIBET EXPEDITION.

NOTES BY AN OFFICER WITH THE LHASA FIELD FORCE.

LEBONG, BENGAL,

21st May.

We are off by double companies to-morrow and Monday, and I fancy we are to go to Lhasa. I was at Naini Tal on leave when I got an urgent order for Alston and self to rejoin. In Calcutta I got a wire saying the Pay Office was to stay behind, and I was to run it and command the Depôt. I felt wild, and directly I arrived I went to see the C.O., and pleaded my case, which was as follows:—In January, hearing we were likely to go to Thibet, I applied to resign the Pay Office, and the C.O. said I could resign on 26th May. I got my case: have to-day resigned the Pay Office, and leave on Monday with the second double company in command of "H" Company.

It will be very cold, and we are all taking fur coats, fur gloves, fur boots and fur hats. We are allowed a mule each, i.e., 160 lbs. of kit.

We take 410 men with us, and we have another 400 men ready here but no officers, a lot having gone home on leave. Here we are, 5,000 feet up, and our first three marches take us down to the plains, and then we go up and up until we cross the Jelap, 15,000 feet. I fancy the show will last six months to a year.

GNATONG,

31st May, 1904.

We met our first double company here yesterday. We are halting here to-day, and they went on this morning.

Our 1st (the 2nd Double Company) left Jalaphar (1,000 feet above Darjeeling) on Tuesday, May 24th, and marched to Pashoh, 17 miles

down hill; Wednesday we did 7 miles; Thursday 12 miles, along the Teest Valley to Rungpo—jolly hot going; Friday to Rontang, 10 miles; Saturday to Lingtam, 10 miles and a rise of 2,000 feet—an awfully stiff march; Sunday to Jeluk, 8 miles and a rise of 3,000 feet—an awful march, just like going up the roof of a house. I don't know how the mules ever got up with 160 lbs. of kit. We had several go over the Khud, and a crowd of 200 coolies followed in front of our rear guard and picked up the mules and loads. It rained hard the whole day and night. Our camp was on a hill-side cut in terraces, and was worse than the worst pig-sty I have ever seen. Our single fly tents leaked like good 'uns; but sleep drowned one's cares, and I can always sleep well. Yesterday, the 30th, we marched here, 8 miles and up 3,000 feet. Our first party greeted us with beer and fires in the log bungalows of the fort. With a bath in prospect and with all one's kit dry again, one feels full of life.

We march to-morrow on Chumbi, a three days' trek. There the Grand Army for Lhasa is forming.

Officers and men of our lot are awfully fit. We are now 12,000 feet up, and we cross the Jelap (14,500 feet) on Thursday. One officer killed and three wounded, and some men, is the last news from the isolated force at Gyantse.

Will write from Chuch. We have now done 72 miles in 7 days, and a climb of over 10,000 feet.

CHUMBI,

5th June.

We arrived here on Friday, and we are all very sad for poor Alston, who died of double pneumonia that morning. I last saw him marching with our 1st Double Company out of Ghatong on Tuesday morning; on Wednesday he complained of feeling very seedy, and the C.O. told him to stay behind at Koprip and wait for the 2nd party. He pleaded so hard to be allowed to march with his party that the C.O. at last consented, and told him to march with the rear guard and keep a Dhoole with him. He got to the top of the Jelap Pass (14,400 feet) and collapsed owing to the intense cold. He died peacefully at 4 o'clock on Friday morning. It is awfully sad, and I feel it very much, as he was an awfully nice fellow, and was with me at Ranihlet.

Since I last wrote, our party marched, on 1st June, to Kuprip, 5 miles up, 1,000 feet (about 12,000 feet). It was awfully cold, and there was snow on all the hills. It rained hard all night. On 2nd June we crossed the Jelap Pass and marched to Langram, 7 miles. The pass was covered with snow, and we had an awful job getting the transport animals over. The track was just like a slide.

Poor Alston's funeral was on Friday at 4.30. The whole force was present, and we buried him in a very pretty spot on the side of a hill. We are making a small cemetery there.

CHUMBI,

11th June, 1904.

We march on Gyantse to-morrow; 5 columns to Phari and 2 on. We are sure to have a big fight at Gyantse, as the Tibetans are in a very strong fort, on a rock resembling Gibraltar, with only two exits, so unless we leave them the "Golden Bridge" we shall have a pretty hard job to make them clear out. From there we go, I believe, in a flying column to Lhasa.

There is no news. I am awfully fit, and am Mess President, and as we have a mess of 16, it requires some brainy calculations at times. I

also command a company; but I fear a captain will arrive before I have a chance of leading into action.

PHARI,
16th June, 1904.

Since last I wrote I have enjoyed myself immensely, for Major Menzies should have caught us up at Chumbi and commanded "H" Column; but as he didn't, I got the command and led out two companies and a convoy of sorts here. The first day we had an awfully stiff march, especially after a 7 days' halt. We did 14 miles to Gaotsa—paraded at 9 and got in at 4; the rear guard at 6, and it rained hard all the afternoon and evening. The next day we did 9 miles and reached Kamparab (14,600 feet), which is on the Great Table Land. Large open plains with high hills in the distance and on each side, and not a chip of wood to be seen, for we are now above the wood limit, and we have to carry all our wood for the next week or so on mules. The next day we marched very well along a good road to Rhan Fort. We went an hour at a time, and did the 9 miles in 3 hours—pretty good going at 15,000 feet. We are all collected here now, and the advance on Lhasa commences to-morrow. There is a most wonderful fort here, which the Thibetans vacated. It is built on quite up-to-date lines, and would have been jolly hard to capture, and gives one an idea of the job we shall have to take Gyantse Fort. My luck is good, as the officer who commands "H" Company caught us up to-day, but is so seedy that the doctors are going to send him back, which means that I shall have command of "H" Company on this show. Al, isn't it? To-day the Maxims with the force and the British and Native Mounted Batteries blazed off to show the Rajah of Bhutan how things are done. He and his numerous retinue were tremendously impressed.

From my tent I see the "Sacred Mountain" (24,000 feet), all crowned with snow; also all the hills round here.

19th June.

We are five miles beyond "Guru," the scene of the first fight, and though up to the present I have seen no enemy alive, I have, unfortunately, seen hundreds of remains, for though after the fight our people buried the several hundred dead Thibetans, the brutes within a week returned and dug all the bodies up to "bag" their clothes, with the result that now the scene of slaughter is covered with half-eaten bodies, etc.

We march 10 to 14 miles every day across great open plains; we go in 3 columns, and the camp at night is most military—inlying picquet and outlying, etc., etc.

We shall be at Gyantse next Saturday, and with luck shall have a fight this day week. I shall command "H" Company all through the show, if all goes well.

Retreat will go in a minute, and then we all fall in at our alarm posts. I am awfully fit; marched 159 miles.

LEBONG.

On the 3rd we marched into Chumbi, 10 miles. It was an awfully pretty march down the Chumbi Valley, with very picturesque Thibetan forts and villages on the way. Chinese are in the village.

Here we concentrate and march in two columns on Gyantse in a week or so. The mountain battery (British) arrived yesterday, the native battery to-morrow; the two wings of the 40th Pathans and the Allick boatmen with Berthon boats, and the mounted infantry company on following days. We are all fit and very keen; and only two men fell out

all the way, and they rejoin in a few days. We have marched close on 100 miles in 11 days; started at 7,000 feet, went to 9,000 feet, down to 700 feet, then up to 14,400 feet, and now we are at 9,000—very fair marching. Lots of men got mountain sickness, but I felt perfectly fit all the time. No sick, although we have had rain, and pretty hard at that, every day.

GYANTSE,

1st July, 1904.

After knocking their monastery and forts on the Shygtatse road to blazes on Tuesday, we have had a truce until noon to-day, and plenty of envoys arrive with white flags; all the same the jong is being strengthened as hard as they can go, and we were quietly awakened this morning at 4.45 as they expected the Tibetans to reoccupy their lost monastery and forts. After breakfasting at 5.30, the order to stand fast was received, and we now wait till noon to know whether it is peace or war.

We had a fight on our way here last Sunday, but we saw nothing of it as we were in the reserve. The Tuesday show was a good one, but we had no luck. We started at 8 to clear the valley, with the R.F. leading. We entered several villages and monasteries, which had been strongly fortified, but were all deserted, and at 4 p.m. all the fun we had had was stray shots at fleeing Tibetans at anything over 1,000 yards range. We were properly tired out, and the general had up the reserve of Pathans and Gurkhas, and sent the latter hill-climbing against the forts and monastery, and the M.I. and Pathans to cut off their retreat. The 10-pounders made some wonderful shooting, and the Gurkhas were absolute marvels, and the whole show was over and the house-to-house fighting began at 7 and was over at 8, when we all returned to camp. I fancy we shall be given our chance at the jong, which will take an awful lot of storming. My company is leading next time, so I shall have a first-rate chance of "Honour or Glory."

2nd July.

Extract from orders:—

"Active operations will be suspended until further orders"—and I fear the brutes are going to sue for peace—so I shall send this letter off.

I am awfully fit, and so are all of us, especially my company; 13,000 and 16,000 feet—don't worry me. It rained here yesterday, and snow is on all the mountain tops.

RUSSIA AND JAPAN.

On the 17th July, 20,000 Russians, under General Keller, made an attack on the Japanese positions at the Motien Pass. The attack was made under cover of a thick fog, but after 15 hours' fighting the Russians were repulsed and pursued as far as Kunteapaotzu. In his despatch on this affair, General Kuropatkin estimated the Russian losses at 1,000 men, whilst the Japanese lost 299 men. Another collision took place between the Russians and the Japanese under General Kuroki on the 19th July at Hsihoyen. General Kuroki states in his despatch that the Japanese gained a complete victory, driving the Russians from their positions, and compelling them to retreat in confusion towards An-ping. The Japanese losses amounted to 524 altogether, whilst the Russian casualties were estimated at over 1,000.

On the night of the 24th July, the Japanese force, under General Oku, after a succession of attacks, succeeded in capturing all the Russian positions commanding Ta-shih-chiao, and pursued the Russians north-

wards. Two Russian generals were wounded in this action, in which the Russians lost 2,000 men and the Japanese 1,071 men. General Oku describes the Russian fortifications as being exceedingly elaborate and formidable, and states that owing to the advantageous positions taken up by the Russian artillery, the Japanese guns could not be brought effectively to bear. As a result of this battle, Hai-Cheng and Niu-Chwang were occupied by the Japanese.

Severe fighting took place on the 31st July and the 1st August between the Russian and Japanese forces about 25 miles from Liao-yang, at Ku-shulin-tzu, and Yang-tzu-ling. General Kuroki reported that the Russians held both positions obstinately, and could not be dislodged on the 31st July. The attack was, however, resumed next day, when both positions were carried, the Russians retreating towards An-ping and Tang-ho-yen. The Japanese captured some field guns. Their casualties amounted to 971, whilst those of the Russians were considerably more, and included General Keller, who was killed. It is now reported that General Kuroki, with 100,000 men, is in rear of the retreating Russians, while General Oku, with 50,000, is in front of them, and General Nodzu, with 50,000 more, is on their left flank.

But little is known of the fighting round Port Arthur beyond that it has undoubtedly been of a most severe description. According to the latest reports, which appear to be authentic, the Japanese have captured Wolf's Hill and other important positions.

NAVAL AND MILITARY CALENDAR.

JULY, 1904.

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- 1st (F.) H.M.S. "Terrible" left Portsmouth for China with relief crews.
 - 2nd (Sat.) H.M.S. "Cambrian" paid off at Devonport.
 - " " A Peace Durbar was held at Gyantse, Thibet.
 - 4th (M.) News was received at Antwerp of the massacre of 15 Belgian soldiers by cannibals in the Mongalla district on the Congo.
 - 5th (T.) H.M.S. "Naiad" arrived at Spithead from Mediterranean.
 - " " The Japanese general, Kuroki, reported that attacks by Russians in the Motien Pass had been successfully repulsed.
 - " " The British resumed hostilities in Thibet, having failed to come to terms with the Thibetans.
 - 6th (W.) The Jong at Gyantse, Thibet, held by 6,000 Thibetans, was stormed by the British.
 - 8th (F.) Announced that the Russian general, Count Keller, was severely defeated at Hoang by the Japanese.
 - " " The British column reached Dongtse, Thibet.
 - 9th (Sat.) Three companies 1st Bn. Hampshire Regiment, arrived at Southampton from Berbera in the "Malta."
 - " " General Oku after three days' battle, occupied the town and heights of Kaiping.
 - 13th (W.) H.M.S. "Mohawk" paid off at Sheerness.
 - 14th (Th.) H.M.S. "Prince George" paid off at Portsmouth.
 - " " 7th Dragoon Guards } left Durban for England in
1st Bn. Welsh Regiment } the "Dilwara."
 - 15th (F.) H.M.S. "Majestic" commissioned at Portsmouth for Channel fleet.
 - " " H.M.S. "Pomone" arrived at Sheerness from East Indies.

- 16th (Sat.) H.M.S. "Talbot" arrived at Plymouth from China.
 " " H.M.S. "Magnificent" commissioned at Devonport for Channel fleet.
 17th (S.) The Russian Vice-Governor of Elisabethpol was assassinated.
 " " The Russians attacked the Japanese during a dense fog at Motien Pass, and after 15 hours' fighting were repulsed with a loss of over 2,000 men.
 18th (M.) H.M. ships "Canopus," "Barfleur," "Howe," "Dreadnought," "Goliath," "Ramillies," "Resolution" and "Highflyer" commissioned for the Manœuvres.
 " " The British troops forced the Karo-la Pass, Thibet.
 19th (T.) The British force arrived at Nagantse, Thibet, where another futile conference was held.
 20th (W.) H.M.S. "Blenheim" paid off at Chatham.
 " " The Russian general, Kuropatkin, reported a Japanese advance on the Liao-yang and Sai-ma-tse line, the Russians retreating after two days' fighting.
 21st (Th.) The Japanese general, Kuroki, drove the Russians, after two days' fighting, from a strong position north-west of the Motien Pass, with the loss of 1,000 killed and wounded.
 24th (S.) The Japanese occupied Ta-shih-chiao, after defeating 30,000 Russians, who also evacuated Niu-Chwang.
 " " British Force reached Kamba Barji, and secured the passage of the Brahmaputra River, Thibet.
 25th (M.) The Japanese occupied Niu-Chwang.
 26th (T.) H.M.S. "Arrogant" arrived at Plymouth from Mediterranean.
 28th (Th.) M. de Plehve, Russian Minister of the Interior, was assassinated in St. Petersburg. The assassin was arrested.
 31st (S.) Russian General Keller killed at Yangzuling.

Addenda to June Calendar.

- 15th (W.) Launch of the battle-ship "Tromp" from the Government dockyard, Amsterdam, for Netherlands Navy.
 21st (T.) H.M. ships "Triumph" and "Swiftsure" commissioned at Chatham for Home Fleet.

FOREIGN PERIODICALS.

NAVAL.

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NOTICES OF BOOKS.

Lord Cardwell at the War Office: A History of his Administration, 1868-1874. By General Sir ROBERT BIDDULPH, G.C.B., G.C.M.G. Demy 8vo. London: John Murray, 1904. Price 9s.

The author was for two years Private Secretary to Lord Cardwell, and therefore had ample opportunities for mastering the subject with which he deals in the work before us. “During that period,” he tells us, “I had ample opportunity of observing the skill and sagacity with which he administered the affairs of the Army. I also learned how little is known by officers generally of the principles of Army Administration, and how much less is known by the British public and most of their guides.”

The opening chapter is devoted to an account of Army Administration as it existed in 1854, with the subsequent changes to the time when Mr. Cardwell became Secretary of State for War in 1868. The consolidation, commenced in 1854, had stopped short of any attempt to bring the Commander-in-Chief and the Secretary of State into the same office. Although the supreme authority of the Secretary of State was admitted, yet there was in practice a duality of administration which was hurtful to the public interests, and business between the Horse Guards and the War Office was transacted by letter. Mr. Cardwell’s task on assuming office was no easy one.

1. He had to continue the unification of the War Department, begun in 1855.
2. He had to effect a proper division of administrative duties in the War Department.
3. He had to lay the foundation of an arrangement whereby the whole of the forces, Regular and Auxiliary, should be combined in an effective system of national defence.

He was at the same time expected to effect a large diminution in the annual expenditure without decreasing the effective strength of the Army, either in men or *matériel*.

The author describes the various steps taken by Mr. Cardwell in furtherance of this programme. In the first year, a saving of more than a million was effected, chiefly by the reduction of troops in the Colonies, but the number of troops in the United Kingdom was increased, and the foundation was laid of the local Colonial forces, which did such good service to the Empire in the South African war.

In the second year, another million was reduced, and the number of battalions was further augmented. An Act of Parliament was passed, by which the Horse Guards was united with the War Office; the relation of the Commander-in-Chief to the Secretary of State being defined by an Order-in-Council which laid down the distribution of work in three principal

divisions; the 1st under the Commander-in-Chief, dealing with the *personnel* of the Army; the 2nd, under the Surveyor-General of the Ordnance, dealing with the *matériel* of the Army; and the 3rd, under the Financial Secretary, dealing with the appropriation, accounting and audit of Army funds. At the same time, short service was introduced, with a view to forming an "Army Reserve." The Austro-Prussian war of 1866 had shown the necessity of maintaining a large reserve force, not always employed, but always in readiness to be called out at the shortest notice, so that an Army, small in peace, might be at once converted into a large and effective Army for the purposes of war. One of the chief objects of bringing home infantry battalions, was to obtain a large number of "cadres," already complete in officers and staff, and only needing to be filled up with rank and file to make them ready for immediate field service, thus adopting the modern principle of maintaining in time of peace a large number of cadres which might be filled up by reserve men instead of having to raise new battalions.

Suddenly all Europe was startled by the outbreak of the Franco-German war. Preparations were at once needed for the despatch of a British force to Antwerp, and it speaks volumes for the soundness and excellence of Mr. Cardwell's administration, that the despatch of 20,000 men to Antwerp in 1870, would have left in the United Kingdom 47,700 infantry soldiers distributed among 55 battalions, whereas, a similar effort two years earlier would have left only 24,375 infantry soldiers at home, distributed among 38 battalions. This increased strength had been accompanied by a reduction of £2,330,000 in Army votes.

The war of 1870, necessitated an increase of the British Army, which resulted in a permanent increase in the cavalry, artillery and departmental corps, the number of field guns in the United Kingdom being raised from 180 to 336. It may be noted here, that when Mr. Cardwell left office, in 1874, notwithstanding the large increase in number of men and guns available for field service, the Estimates were lower by £700,000 than those of 1868-9, besides providing for an excess of £500,000 due to rise in prices and increased pay to the soldier.

The year 1871 was devoted to the abolition of purchase, which is fully described by the author. At the same time, the control of the Militia, the Yeomanry, and the Volunteers, was transferred from the lords-lieutenant of counties to the Sovereign, and control over the railways of the United Kingdom, in case of invasion, was given to the Secretary of State.

The ground was thus cleared for organising the military forces of the Crown as a whole, and in 1872 Mr. Cardwell unfolded his scheme for that purpose. The Royal Commission on Recruiting, which reported in 1867, had laid stress on two points :—

1. That there was no Reserve for expanding the Army to a war establishment.
2. That service in the Army was unpopular because two-thirds of a soldier's time were spent on foreign service.

Mr. Cardwell had already taken steps to meet these two requirements; 1st, by the Army Establishment Act of 1870, which was calculated to create a reserve of 80,000 men; 2nd, by withdrawing troops from the Colonies, and concentrating a larger force in the United Kingdom, by which means the foreign service of a soldier was reduced from two-thirds of his time to one half.

In the chapter on "Modern Armies," the author draws attention to the great change that had taken place of late years, in the constitution of the Standing Armies of Europe, by the adoption of the Prussian system, whereby, in time of peace, the Army was employed in training soldiers for short periods, and then passing them into the Reserve, in the same way that a factory manufactures arms and ammunition, which are put away in store ready for use. The conditions which attend the British Army differ, however, from those of every other Army in Europe, by reason of half the British Army being always on foreign service, and in a fit state to take the field at a moment's notice. This condition prohibited the adoption of the Continental system in its entirety, a system by which the colour service of a soldier did not exceed three years. That period of service was clearly incompatible with the condition of keeping half the battalions of the Army always in readiness for field service. For Indian and Colonial service it was necessary to have a longer period of colour service, and this had been fixed at six years by the Act of 1870; but even so, it was necessary to adopt a more elastic organisation for the infantry, than that of single battalions fed from depôts at home. The waste and cost of that system had become prohibitive, and Mr. Cardwell found that it was necessary to revert to the *system that had been adopted in the Peninsular war, when each battalion on service had its second battalion of 1,000 men and 40 officers at home, by which means, the war battalion was kept effective.*

The reductions in the infantry after Waterloo, inflicted a heavy pecuniary loss on the officers who were placed on half-pay, by depriving them of the value of their commissions. In order to minimise this hardship, which was incidental to the purchase system, the reductions had been distributed throughout the Army, which was then reduced to an Army of single battalions. Purchase having been abolished by the Act of 1871, an opportunity was offered of reorganising the infantry on a double battalion system, so that every battalion on foreign service might have a second battalion at home to keep it effective. This second battalion thus acted as a training battalion, and a depôt battalion. It was to be continuously employed in training recruits, who, after serving with the foreign battalion, should pass into the Reserve, where they would stand ready to fill the ranks of the home battalion if that also should be required for active service. In such an event, the recruiting depôt of each regiment was to be expanded into a full battalion which should feed the two foreign battalions. In this task it was to be aided by the Militia, which was combined with the Regular Army.

The details of the scheme were worked out by a committee under Major-General MacDougall. By this scheme, the United Kingdom was divided into territorial districts, to each of which was allotted an infantry regiment of two battalions, to which were added two Militia battalions, which formed the 3rd and 4th battalions of the territorial regiment.

The Volunteer corps of the sub-district were to be affiliated to the territorial regiment, which was to provide them with the necessary permanent staff.

The scheme was received with universal approval, which silenced the attacks of all critics. Its complete success was proved during the war in South Africa, when the War Department was enabled to keep an army of 150,000 Regulars in the field for more than two years.

That the scheme has not always worked perfectly, has been due to the fact that it *has not been carried out in the essential particular of expand-*

ing the *dépôt* into a full battalion whenever both battalions of a regiment were abroad. No machine can be successful unless it is kept in proper repair and working order.

In an interesting chapter, the military condition of Great Britain from 1815 to 1870 is reviewed, and the weakness to which we had been reduced before the Crimean war is shown, a weakness of which the Government had been very sensible, but which public opinion did not allow them to remedy.

The author draws attention to "little wars," which are such frequent incidents in the British service, and notes that no provision was made for them. Had Lord Cardwell's tenure of office been prolonged, there can be no doubt that his great administrative ability would have devised a method of meeting this need. His whole aim was to make the Army thoroughly efficient for every duty it had to perform, and he was prepared to resign his office rather than allow its efficiency to be impaired. It is also interesting to note that he held strongly the opinion as to the necessity of perfect co-operation between the Army and the Navy, and that the safety of the country, in case of war, would depend not on the efficiency of either Service separately, but on the combined efficiency and united action of them both.

Sir Robert Biddulph is to be congratulated on his very interesting volume, which has moreover appeared at a most opportune time, when our Army Organisation is apparently once more in the melting pot.

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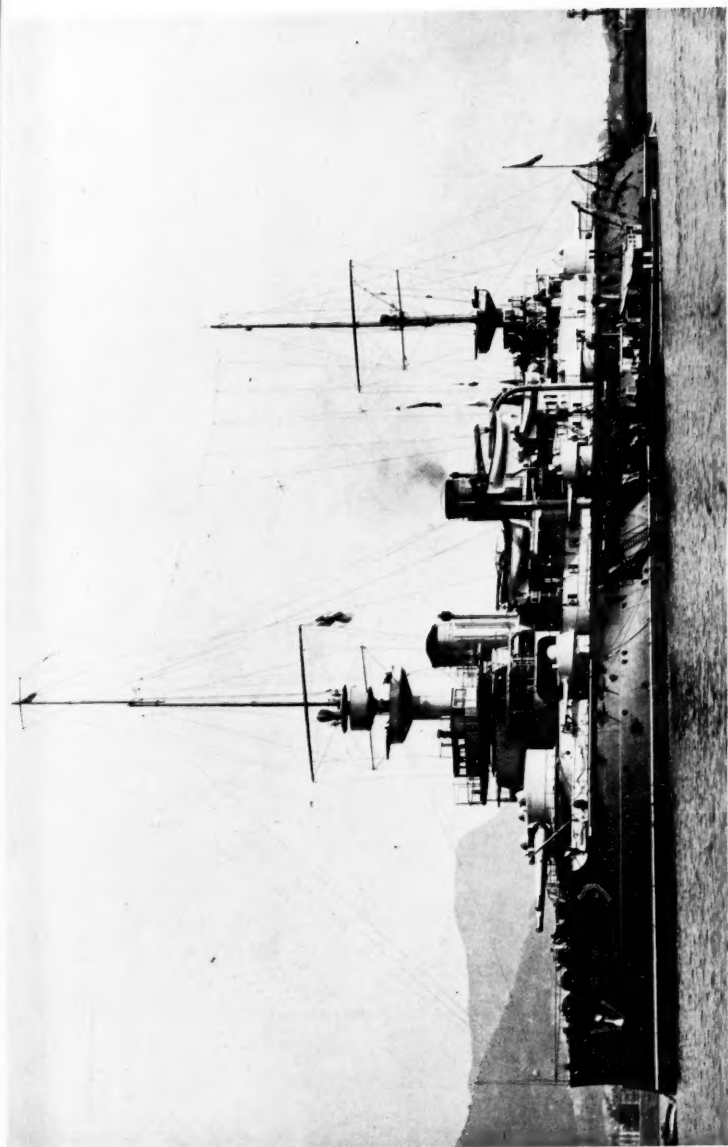
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